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# **IN THE MIND OF THE BEHOLDER: PERSPECTIVES ON HEALTHCARE MANAGERS' LEADERSHIP**

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# IN THE MIND OF THE BEHOLDER: PERSPECTIVES ON HEALTHCARE MANAGERS' LEADERSHIP

THESIS FOR DOCTORAL DEGREE (Ph.D.)

By

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*Till mamma och pappa*



## PROLOGUE

My interest in leadership began with an observation I made in my work as an occupational health psychologist. I noticed that, for my clients on sick leave, the possibility to return to work depended largely on the attitude and the actions of their managers, and the importance of the quality of leadership in these situations fascinated me. Furthermore, in my role as a psychologist, I regularly hosted a number of courses in psychosocial work environment for managers at different levels in both the public and the private sector. I gradually noticed that they had a need to discuss challenging issues related to the managerial role, and I saw the energizing effect it had on the participating managers to discuss these topics with colleagues. However, I was also aware of that it was one thing to enhance the level of knowledge on how to handle these issues, and another to know whether this would actually lead to changes in their leadership. When I was given the opportunity to pursue doctoral studies at Karolinska Institutet in a project combining studies of leadership and development, I was very intrigued and grateful to have the possibility to explore these aspects in greater depth.

The plan was that my research would result in a thesis covering these main subjects. After a honeymoon year of doctoral education—when I fell in love with the skills of research; when I still believed that the title of my thesis was going to be “Effects of Leadership Development in Healthcare”; when I still thought that the vast literature on leadership included an agreed-upon definition of the phenomenon—I ended up conducting research in which only one of the four studies addressed leadership development, while the other three focused on other topics. Nonetheless, leadership runs like a silver thread throughout this thesis.

My love for the art of research has persisted, but my thoughts concerning leadership have changed throughout my doctoral studies. I intentionally use the word “changed” rather than “developed”, because development indicates movement from a lower to a higher level, from something crude to something more sophisticated. There are different ways of regarding leadership, and the perspectives they represent elucidate disparate features of the leadership phenomenon and are not mutually exclusive. This thesis represents one perspective. Or actually, as it turned out to be, several.

## ABSTRACT

The managerial mission in healthcare services today entails challenging conditions that have implications for healthcare managers' leadership. These circumstances, in combination with reports in the literature describing a consistent association between leadership and employee outcomes, have heightened the need for research on how healthcare manager's leadership relates to psychosocial aspects in the workplace and how leadership can be supported. The present studies aimed to advance knowledge in this area, considered both from the perspectives of the managers themselves and from the viewpoints of other employees, such as the managers' superiors, colleagues, and subordinates. Therefore, the questions addressed in this research concerned the following: how leadership is involved in perceptions of work environment and distress, from the poorly elucidated standpoint of healthcare managers themselves (Study I), and with the objective of gaining a deeper understanding of the relationship between leadership and subordinates' distress (Study II); how to promote leadership by investigating that aspect in relation to the leader's personality (Study III) and to the responsiveness to leadership development (Study IV), considered from the viewpoints of the managers and their superiors, colleagues, and subordinates.

All four studies were based on questionnaire-derived quantitative data collected in a randomized controlled trial evaluating a leadership development intervention. One of the questionnaires applied was a 360-degree feedback instrument, which enabled assessment of leadership from different perspectives. The sample consisted of first-line and second-line healthcare managers (n=193), their superiors (n=182), colleagues (n=366), and subordinates (n=1276). The statistical assessments performed included cluster analyses, hierarchical multivariate or multilevel regression analyses, and analysis of variance.

One of the key findings was that one leadership profile was found to be characterized by lower leadership self-ratings and more negative perceptions of work environment and distress compared to all other leadership profiles that were identified. This suggests that leadership profiles can explain variation in how healthcare managers interpret and react to their work environment. Furthermore, higher levels of production-oriented leadership, which comprise aspects of order and structure, emerged as being related to lower levels of distress from the perspective of the subordinates. This indicates the impact of these aspects of leadership in a healthcare organization. The personality traits that predicted leadership ratings, and the perceptions of the effects of a leadership development intervention on leadership, were inconsistent between different rater sources. Thus a pivotal finding is the level of disagreement between managers and their superiors, colleagues, and subordinates with respect to perceptions of leadership. This raises questions about what constitutes leadership, how can it be measured and with what purpose—if leadership is in the mind of the beholder.

In conclusion, the results communicated in this thesis extend the current knowledge of healthcare managers' leadership by demonstrating its' role in relation to work environment and distress. The present findings also elucidate the relative quality of perceptions of leadership, suggesting that different rater sources have their own social constructions of the leadership phenomenon. A practical implication of this observation is the need for awareness of the relative quality of perceptions of leadership to guide decisions regarding the purpose of assessing leadership and how it should be assessed. Also, healthcare managers may want to



upgrade the subjective significance of production-oriented behaviour in their leadership, behaviours traditionally termed as “management”.

.

## LIST OF SCIENTIFIC PAPERS

- I. **Lornudd C**, Bergman D, Sandahl C, von Thiele Schwarz U. Leadership Profiles in Relation to Managers' Work Stress. Submitted.
- II. **Lornudd C**, Tafvelin S, von Thiele Schwarz U, Bergman D. (2015). The mediating role of demand and control in the relationship between leadership behaviour and employee distress: A cross-sectional study. *International Journal of Nursing Studies*, 52(2):543–554.
- III. Bergman D, **Lornudd C**, Sjöberg L, von Thiele Schwarz U. (2014). Leader personality and 360-degree assessments of leader behaviour. *Scandinavian Journal of Psychology*, 55(4):389–397.
- IV. **Lornudd C**, Bergman D, Sandahl C, von Thiele Schwarz U. A Randomised Study of Leadership Interventions for Healthcare Managers. Submitted.

# CONTENTS

1	Introduction.....	1
1.1	Managers' leadership in healthcare.....	2
2	Aims and objectives .....	5
2.1	General aim .....	5
2.2	Specific objectives.....	5
3	Overview of the thesis.....	7
4	Theoretical framework .....	9
4.1	Defining leadership.....	9
4.2	Leadership theories.....	10
4.2.1	The trait perspective.....	10
4.2.2	The behaviour and style perspective .....	11
4.2.3	The contingency perspective.....	11
4.2.4	The transformational perspective .....	11
4.2.5	The Change, Production, Employee model of leadership.....	12
4.3	Measuring leadership behaviour .....	13
4.4	Leadership, work environment, and distress .....	14
4.4.1	The Job Demand–Control model .....	15
4.4.2	Job strain in subordinate employees and managers .....	16
4.4.3	Managers' leadership and distress.....	17
4.4.4	Leadership and employee distress.....	17
4.5	Leadership and personality .....	18
4.5.1	The Big Five model .....	18
4.5.2	Personality prediction of job performance and leadership.....	19
4.6	Leadership development .....	20
4.6.1	Defining leadership development.....	21
4.6.2	Evaluation of the effects of leadership development.....	21
4.6.3	Methods of developing leadership .....	22
4.6.4	Backstage groups .....	23
5	Methods .....	25
5.1	General project methods .....	25
5.1.1	Study design .....	25
5.1.2	Study setting .....	25
5.1.3	Procedures .....	25
5.1.4	Participants .....	27
5.1.5	Interventions .....	29
5.1.6	Instruments .....	31
5.2	Specific study methods .....	35
5.2.1	Study I – Healthcare Managers' Leadership Profiles in Relation to Perceptions of Work Stressors and Stress .....	35

5.2.2	Study II – The mediating role of demand and control in the relationship between leadership behaviour and employee distress: A cross-sectional study .....	36
5.2.3	Study III – Leader personality and 360-degree assessments of leader behaviour.....	36
5.2.4	Study IV – A randomised study of interventions for healthcare managers.....	37
5.3	Ethical considerations .....	37
6	Key findings.....	39
6.1	Study I .....	39
6.2	Study II.....	42
6.3	Study III.....	43
6.4	Study IV .....	44
7	Discussion.....	45
7.1	Risk for stress in the Vague Leader profile .....	45
7.2	The upgrade of management.....	47
7.3	Advancing the understanding of the relationship between leadership and subordinates' distress.....	49
7.4	Lessons from a leadership development evaluation .....	51
7.5	Leadership: In the mind of the beholder .....	55
7.6	Methodological considerations .....	58
8	Conclusions and future research.....	63
8.1	Practical implications.....	64
9	Acknowledgements .....	65
10	References.....	69

## LIST OF ABBREVIATIONS AND DEFINITIONS

ANOVA	Analysis of variance
CPE	Change, Production, Employee
HR	Human Resource
JDC	Job Demand-Control
RCT	Randomized Controlled Trial
SLSO	Stockholms Sjukvårdsområde
UPP	Understanding Personal Potential
Webb-QPS	Webb-Questionnaire for Psychological and Social Factors at Work
Distress/stress	Distress can be defined as the opposite of well-being, and may include various outcomes, e.g., job dissatisfaction as well as depression or stress. Distress is thus used in this thesis as an overall construct to describe absence of well-being at work, as well as it is used for the outcome criteria in Study II. The term stress is used for the outcome measures in Study I.



# 1 INTRODUCTION

The mission of the healthcare manager is described as being complex (Rainey & Chun, 2005) and influenced by a set of characteristics that distinguish healthcare organizations from other types of organizations (Shortell & Kaluzny, 2000). Some of these characteristics have been highlighted as follows: the output, which can be difficult to define and measure; the work involved, which is extremely specialized and complex, dependent on a high degree of coordination between different professional groups, often urgent in nature, and showing little tolerance for error; the healthcare staff, representing highly professional individuals who are loyal to their profession rather than to the organization, including the most powerful group of professionals—the physicians—who have the ultimate responsibility for the care delivered. The challenging task of management in healthcare has been described as “to bring professional experts together in a concerted action, to motivate them to contribute their expertise in collaboration and to accept that limited resources need to be allocated in a way that grants the best return” (Brommels, 2010).

Healthcare services are normally run with a certain degree of government involvement. In Sweden, the main responsibility for healthcare funding and provision has been decentralized to 21 county councils (two of them denominated “regions”), which represent an independent level of authority below that of the national government. This affects the mission of Swedish healthcare managers, because during a mandate period the county councils outline how healthcare services are to be organized and managed, and what is expected to be achieved (e.g., to meet quality standards and financial targets). This has implications for managers and other employees in healthcare organizations, among other things because these directives can have an immediate effect on the level of job demands and control over the work that is performed, factors that are closely related to distress at work (Karasek & Theorell, 1990).

In the public sector, as well as other organizations, change has become the only constant (Mangan, 1995). Due to the autonomy of the county councils, reforms are often, but not always, introduced at the local level, although similar reforms are usually adopted by several county councils (Anell, Glenngard, & Merkur, 2012). Examples of reforms that have been implemented since the beginning of the 2000s are the following: more freedom for care seekers to choose provider; privatization and competition to develop primary care; greater focus on public comparisons of quality and efficiency indicators; enhanced responsiveness to patient and public expectations (Anell et al., 2012). These reforms are well in line with the market principles of New Public Management, a management model that was introduced in the 1980s in healthcare services in Sweden, as well as in other Scandinavian countries (e.g., Denmark), English-speaking Western (e.g., the United Kingdom), and other Western European countries (e.g., France) (Rosta, 2011). In Sweden, one of the most important drivers for the introduction of New Public Management was a financial incentive: the need for enhanced awareness of how the taxpayers’ money was spent in the public sector. The principles of New Public Management launched the creation of internal markets, including enhanced cost awareness, establishment of performance measurements, and a focus on customers and results. As a result of these principles, the healthcare organizations run by the county councils have become more similar to private organizations, including competition between healthcare providers, and management that needs to be conducted in a financially

sound manner. However, healthcare managers must also consider stipulations in the Health and Medical Services Act (HSL, SFS 1982), an ordinance that concerns that everyone living in Sweden has access to good healthcare, which has to be balanced against financial targets.

In addition to the above-mentioned comprehensive organizational changes over the last three decades and the reforms in the county councils during the past decade, smaller-scale changes aimed at improving the quality and effectiveness of care are constantly being made by the various healthcare providers in the different county councils. One of Sweden's largest healthcare providers, Stockholms Läns Sjukvårdsområde (SLSO), is owned by Stockholm County Council and has a total of 11,600 employees. The participants in the present thesis project represented a sample of SLSO employees. During the data collection period 2010–2013, the SLSO annual reports described numerous changes, such as the following: sell-outs, mergers, and improvement of units; implementation of new IT and reimbursement systems; implementation of novel approaches to organizing work; collaboration with new actors in the community. Clearly, healthcare managers today have to be able to fulfil their mission and simultaneously handle constant changes. In light of the situation outlined above, it is easily recognized that being a manager in healthcare in Sweden entails working according to high standards and can be perceived as very challenging.

## **1.1 MANAGERS' LEADERSHIP IN HEALTHCARE**

In SLSO, the Health Services Director represents the highest managerial level, and immediately below that hierarchical level are the second-line managers, comprising a mixture of health professionals, predominantly physicians (M-L Hall. Human Resources, personal communication, June 27, 2015). The second-line managers have the overall responsibility for management and maximum patient safety, and they are also the superiors of the first-line managers, who represent the managerial level closest to the subordinate staff. First-line managers are often a registered nurse or a paramedics (Johansson, 2010), and they have insight into and influence over organization of the care that is provided at the unit. These managers are well acquainted with the challenges associated with the specific local conditions, because on a daily basis they are confronted with issues (often critical and unpredictable) regarding the delivery of care (Hallin & Siverbo, 2003). Inasmuch as most first-line and second-line managers are health professionals, they often need to integrate a strong professional identity with a managerial role (Johansson, 2010; von Knorring, 2012). This is not always an easy task and can contribute to role ambiguity, as indicated by previous research (von Knorring, 2012). In managerial positions, both physicians and registered nurses appear to share a continuous prominent professional identity (Johansson, 2010; von Knorring, 2012) that potentially may influence how they provide leadership and how they are perceived as leaders. It has also been argued that being motivated to work in public service organizations is qualitatively different from being motivated to work in the private sector (Perry, Hondelghem, & Wise, 2010). Research in this area has described public service motivation as including values and beliefs that embody the interest of a community of people, and that go beyond self-interest and organizational interest (Vandenabeele, 2007), and such motivation is more prevalent in the field of public service than in other sectors (Rainey & Steinbauer, 1999). It has been suggested that being more motivated due to consideration of the need of another rather than the need of one's own is a driver of the efforts of individuals with high public service ambitions, which pinpoints the importance of meaning and purpose



in energizing behaviour (Piliavin & Charng, 1990; Perry et al., 2010). Meaningful work has even been shown to be one of the main reason for employees staying in a public service organization (Stranz, 2013). For healthcare employees in general, and perhaps the accountable managers in particular, it is plausible that the increased attention paid to costs, competition, and a focus on financial results can create tension tied to fundamental motivational values, with potentially negative consequences for perceptions of distress (Lutzen, Cronqvist, Magnusson, & Andersson, 2003).

Managerial responsibility has been described as comprising the strategic, administrative, and personnel objectives or logics (Dellve & Wikström, 2006). The strategic logic involves working with development of departmental operations, which has been reported to be viewed by healthcare managers as central to leadership and highly motivating for themselves, and yet difficult to prioritize in conflict with other logics. The administrative logic refers to working with staff and financial administration systems or information management. According to managers themselves the importance of this logic has increased substantially, perhaps particularly with regard to information management. It has also been reported that administrative support for managers is decreasing (Johansson, 2010). Dellve and Wikström (2006) concluded that managers even perceive that, rather than constituting a support system, administration has become the core of managerial responsibility. The personnel logic is described as the importance of being present at the unit (or even working clinically), meeting the subordinates, and creating the opportunity for participatory discussions related to daily work issues. Similar to the strategic logic, the personnel logic is described as central to leadership. These three logics together are perceived as claiming more than 100% of managers' work time, and a majority of the managers studied by Dellve and Wikström therefore found them conflicting. In general, the work time of first- and second-line healthcare managers has been observed to be highly fragmented (often involving less than 9 minutes per activity) and used mostly for meetings and activities with subordinates, with only a minor proportion spent on strategic work or alone with a superior (< 1% for the latter) (Arman, Dellve, Wikström, & Tornström, 2009).

In summary, the conditions outlined above constitute important work environment factors for both managers and subordinate employees. The relationship between characteristics of the work environment and distress is well established in the literature (Karasek, 1979; Karasek & Theorell, 1990; Siegrist, 1996), and the same applies to the association between the quality of leadership and subordinates' distress (Skakon, Nielsen, Borg, & Guzman, 2010). Hence, if (a) the work environment has an impact on the distress for all employees, including managers, and (b) the quality of the leadership affects the subordinates' level of distress, it is then essential to understand how the leadership provided is related to the managers' own work environment. This is important because the leadership might be influenced by the level of distress for individual managers, as indicated by (a), which could potentially indirectly affect the distress level of the subordinates, according to (b). Moreover, although the existence of a relationship between leadership and subordinates' distress is well established, the mechanisms in this relationship remain largely unclear. Further knowledge in this respect would help explain the ways in which leadership might influence subordinates' distress, aspects that are particularly important when considering the current shortage of nurses and the excessive demands on the nursing profession (Cummings et al., 2010).

The notion of managers playing a key role in their organizations is supported by the associations between leadership and an array of employee outcomes (Kivimäki et al., 2005; Skakon et al., 2010). Moreover, leadership may be promoted in various manners, two of which entail recruitment of individuals with suitable characteristics (e.g., personality, knowledge, skills, or previous experiences) and investment in development interventions. The managers' leadership is commonly regarded as human capital that is well worth strengthening and protecting by investing in leadership development (Day, 2001). However, although the number of studies of leadership development have increased substantially during the last 15 years, most of those evaluations have considered short-term programmes focused on training a pre-determined leadership skill (Avolio et al., 2009; Kelloway & Barling, 2010), and it is possible that the complex challenges that face managers today cannot be satisfactorily addressed by short-term interventions concentrating on proven approaches to solve known problems (Day, Fleenor, Atwater, Sturm, & McKee, 2014). This might apply in particular to healthcare managers, due to the multifaceted conditions that surround those managers. Accordingly, there is a real need to evaluate long-term interventions targeting the complex leadership challenges that exist in healthcare services.

However, while many would acknowledge the importance of leadership development in promoting leadership, others would argue that too much energy is spent on development of managers and too little on selecting the right person for a particular managerial position (Obert & Södergård, 2010). Personality tests are increasingly used in recruitment of managers, as a way to predict future job performance. Meta-analyses have reported a relationship between personality and leadership (Bono & Judge, 2004; Judge, Bono, Ilies, & Gerhardt, 2002), but it is not yet known how the manager's personality is related to leadership from the viewpoints of different employees, such as superiors, colleagues, and subordinates: do they have the same perceptions of which personality traits they associate with and value in leadership? However, the predictive validity of personality tests has been questioned by several scholars (Morgeson et al., 2007) and the broad personality variables of the widely used five factor model of personality (McCrae & Costa, 1987) has been shown to explain job performance at a modest level (Barrick, Mount, & Judge, 2001). It has therefore been suggested to use narrower, work related, personality variables, in order to increase the predictive validity (Christiansen & Robie, 2011; Tett, Steele, & Beauregard, 2003). Whether narrow personality variables would better predict leadership perceptions from different employee perspectives is yet to be investigated.

## **2 AIMS AND OBJECTIVES**

### **2.1 GENERAL AIM**

The general aim of this thesis was to advance the understanding of healthcare managers' leadership by investigating how it is related to several psychosocial aspects in the workplace: the work environment and distress for the managers themselves and their subordinates; the managers' own personality; the managers' receptiveness to development in a long-term leadership intervention. A second aim was to elucidate the mentioned aspects from the perspectives of the healthcare managers themselves and different categories of employees in their work surroundings: superiors, colleagues, and subordinates.

### **2.2 SPECIFIC OBJECTIVES**

The specific objectives of the studies included in this thesis were as follows:

- To identify the leadership profiles that are represented among healthcare managers, and to explore how these profiles differ with regard to perception of work stress and the work stressors job demands and control (Study I).
- To examine a potential mediating effect of the work stressors job demands and control on the relationship between leadership and employee distress (Study II).
- To investigate how well the managers' self-rated personality will predict ratings of leadership made by the managers themselves and by their superiors, colleagues, and subordinates, and whether the addition of narrow dimensions will enhance the predictive value (Study III).
- To compare the effects of two different leadership development interventions on leadership, and also to evaluate the combined impact of the interventions after two years from the viewpoints of the participating managers themselves, as well as their superiors, colleagues, and subordinates (Study IV).



### 3 OVERVIEW OF THE THESIS

The point of departure in Study I was to investigate managers' perceptions of themselves according to the Change, Production, Employee (CPE) model of leadership, in which the relationship between the managers' leadership and their own work environment and stress was also explored. Similarly, Study II focused on the association between leadership, work environment, and distress, but in this case from the subordinates' point of view. If this investigation showed a potential relationship between these variables, it would emphasize the significance of recruiting managers providing leadership associated with lower levels of subordinates' distress. Hence, in Study III, the focus was shifted to investigating whether perceptions of leadership could be predicted based on the managers' personality. Finally, the focus of Study IV represented a counterbalancing view of leadership as an innate ability, by addressing the question of how leadership would be affected by long-term leadership development. An overview of the four studies is given in Table 1.

Table 1. Overview of Study I-IV

Study	Study participants	Type of data	Study focus
I	Managers	Cross-sectional	Exploration of leadership profiles and differences in perceptions of <b>job demands, control, and stress</b>
II	Subordinates	Cross-sectional	Examination of a potential mediating effect of <b>job demand and control</b> between leadership and <b>distress</b>
III	All	Cross-sectional	Investigation of how well managers' self-rated <b>personality</b> can predict ratings of leadership
IV	All	Longitudinal	Evaluation of the effect on leadership of two <b>leadership development</b> interventions; separate and in combination



## 4 THEORETICAL FRAMEWORK

### 4.1 DEFINING LEADERSHIP

In the literature, the dominant basic assumption about leadership is that it is inherently good. Here, this assumption is not problematized, but rather adopted.

Leadership has been compared to beauty, like something that you recognize when you see it, but you have a hard time describing in words (Warren, 1989). Indeed, the elusiveness of the leadership phenomenon is fascinating, and yet it is seldom satisfying for the scholar investigating leadership. One of the most famous comments on this subject was made by Stogdill (1974, p. 259): “There are almost as many different definitions of leadership as there are persons who have attempted to define it”. The difficulties in defining leadership have been pointed out as a major problem in the academic discipline of leadership (Rost, 1993). However, it has been argued that it is neither possible nor desirable to agree on a single definition of leadership, and that this phenomenon is so multifaceted that we need to understand it in different ways (Jackson & Parry, 2008; Yukl, 2012), thus embracing the view that different definitions actually address certain aspects of leadership. Definitions commonly indicate that leadership comprises some kind of influential reciprocal relationship between the leader(s) and the follower(s), a coordination of actions of the leader and followers, and an intention to strive towards a goal or fulfilment of mutual purposes (e.g., Rost, 1993; Stogdill, 1974). The above-mentioned comparison of beauty and leadership is perhaps even more striking than it originally was meant to be, considering that the norms of beauty have changed over time, and so have the beliefs about leadership. From the beginning of the 20th century, beliefs concerning what constitutes leadership have shifted, with the focus moving from leadership traits, to behaviours or styles of the leader, to the impact of situational factors, and to the notion of leadership as a relation. Thus it certainly seems that leadership is socially constructed, given the historical differences in attempts to understand this concept.

To further distil the concept of leadership, it is necessary to address the distinction between being a manager and being a leader. First, it should be acknowledged that a person can be a leader without being a manager (i.e., without having the formal organizational position that is the characteristic of being a manager). Of course the opposite situation of being a manager but not a leader is also possible. Performing leadership is often described as one of the roles of managers, and examples of the differences between the concepts are that managers seek to maintain predictability by setting goals, establishing action plans, and monitoring results, while leadership entails producing organizational change by developing a vision, communicating it, and motivating employees to act in line with the vision (Kotter, 1990). Management can also be described as dealing with “how” and “when” (in organising the work) and leadership with “why” and “what” (Sveningsson & Alvesson, 2010). Sveningsson and Alvesson (2010, p. 33) suggest a distinction based on that management can be performed in traditional management actions without focus on what the employees think, while leadership involves a process of employee sense-making, i.e., a focus on employees’ cognitive and affective reactions. However, in practice this distinction is not obvious, as traditional managerial behaviours such as planning, organizing, and overseeing the daily work also have the potential to contain a sense-making meaning: those behaviours may also

be interpreted and reacted to by the subordinates, and thereby integrated with the overall impression of how “leader-like” a particular manager is. In that sense, all the behaviours that a manager exhibits, and are perceived by a subordinate, have the potential of implicitly being rated on an “internal” scale of leadership. Consequently, in this thesis, no distinction is made between managerial behaviour and leadership behaviour. Leadership is operationalized as the behaviour of healthcare managers in formal positions.

## **4.2 LEADERSHIP THEORIES**

When choosing to study leadership in terms of the behaviours of healthcare managers, an implicit assumption is that leadership can be searched for in the leader (i.e., determining whether a leader-centred perspective on leadership has been adopted). In a somewhat crude distinction, a contrasting perspective is a follower-centred perspective on leadership, which to a larger extent than leader-centred perspectives emphasizes the role of the follower in the construction of leadership. Both these perspectives have been represented throughout the history of leadership research, and today the leader-centred theory of transformational leadership (Burns, 1978; Bass, 1985) is being studied most extensively, and the follower-centred perspective of leader-member exchange theory (Graen & Uhlbien, 1995) is the second most investigated (Barling, 2014). Follower-centred perspectives are becoming more prevalent as the view of leadership as a relation and a process is growing (Sveningsson & Alvesson, 2010). In short, in such theories the followers’ role is seen as a moderator of the influence of a leader or a co-producer of leadership, or as a constructor of leadership (Jackson & Parry, 2008). However, inasmuch as the leader-centred leadership perspective was applied in the present research, it is focused on in this section of the thesis.

Historically, leader-centred studies have examined leader traits (dominated around 1930–1950), leader behaviours and styles (dominated around 1950–1960), leader behaviours in interaction with the situation at hand (dominated around 1960–1980), and the transformational effect of leader behaviours on followers (dominating since the 1980s). A brief presentation of each of these views is offered below.

### **4.2.1 The trait perspective**

The search for the understanding of leadership began in the first half of the 20th century with investigations of traits that distinguished leaders from others. However, research in the area failed to offer consistent distinctions between leaders and non-leaders. The research field from this period consisted of hundreds of traits without any classification system (Barrick et al., 2001). This field also suffered from a “labelling dilemma”, that is, in some cases the same label was used for different traits, and in other cases the same trait was labelled differently across studies (Judge et al., 2002), which heavily limited the possibilities of drawing conclusions about results reported by different investigators. Eventually, this research field was dramatically reduced after some influential reviews seriously questioned whether personality qualities can explain leadership (Mann, 1959; Stogdill, 1948). However, in the 1980s, the trait approach to leadership re-emerged in the leadership research when the classification system using the five-factor model (the “Big Five”) was adopted by a majority of the scholars in this area (Zaccaro, 2007) (see also the section on leadership and personality).



#### **4.2.2 The behaviour and style perspective**

During the 1950s and 1960s, the predominant perspective in studies of leadership shifted from leader traits to leadership behaviour. This change was strongly influenced by research conducted in the United States by Stogdill and colleagues (e.g., Stogdill, 1950) at Ohio State University, who linked leader effectiveness with two leader behaviours (consideration and initiating structure), and by Katz and Kahn (e.g., Katz & Kahn, 1952) at the University of Michigan, who concurrently identified similar leadership behaviours (relations-oriented and task-oriented behaviour). Consideration and relations-oriented behaviour entail concern for employees, and initiating structure and task-orientation behaviour involve concern for performance. These two behavioural categories later influenced the combination of two attitudinal orientations in a matrix designated the managerial grid (Blake & Mouton, 1964), representing five different leadership styles. However, similar to the studies associating traits with leadership, the investigations of leadership behaviour and styles generated mixed empirical results (Korman, 1966). It has been argued that a central problem in both these approaches is that the ambition is to find a universal model of the most effective leadership, and thus the impact of the context is ignored (Sveningsson & Alvesson, 2010).

#### **4.2.3 The contingency perspective**

Contingency theories of leadership assume that no one way of performing leadership is best, but rather that aspects constituting effective leadership are contingent on the situation. This perspective dominated from the 1960s to the 1980s, and two models in particular came to widespread prominence: the Hersey-Blanchard Situational Leadership Theory (Hersey & Blanchard, 1969) and Fiedler's contingency model (Fiedler, 1964). The Situational Leadership Theory was based on work done by Blake and Mouton (1964), and postulated that the most effective leadership style ranged from "instructing" to "delegating", depending on the subordinates' task-relevant job maturity and psychological maturity. This model has not been sufficiently investigated and has received mixed empirical support, yet it has been applied extensively and seems to be intuitively appealing to practicing managers (Bass, 2008, p. 537). Fiedler's contingency model, on the other hand, has been evaluated more comprehensively than it has been applied. Fiedler's model stipulates that a leader has a consistent style of task or relations orientation, and the effectiveness of each style depends on three situational factors: the leader's organizational power, the level of work clarity, and the quality of the interpersonal relationship with the subordinates. A task-oriented style is considered to be most effective in a situation that is characterized by either high or low levels of the three factors, and consequently a relations-oriented style is most effective when these factors are at moderate levels. This model specifies a consistency in an individual's leadership style across situations, and thus a practical consequence is that individuals should search for managerial positions tied to a context that fits their leadership style. Compared to the Situational Leadership Theory, Fiedler's model has received stronger empirical support, although its validity is still disputed (Bass, 2008).

#### **4.2.4 The transformational perspective**

In the 1980s, a new generation of theories appeared, which emphasized the relational, visionary, and ethical aspects of leadership and thereby deviated from "traditional" theories

focusing on the more instrumental relationship between leadership and employee outcomes, without paying further attention to the followers' motivational and inspirational response to the leadership (Barling, 2014). The transformational leadership theory has secured a strong position among current models and is now by far the most researched leadership theory (Barling, 2014).

Briefly, transformational leadership can be described as four separate behaviours: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. It is hypothesized that each of these behaviours affects the followers in a way that motivates them to perform at a level that is beyond their own self-interest and in a way that makes them feel trust in and inspiration of the leader. Transformational leadership is often referred to in combination with transactional leadership, yet the theoretical distinction between the two is clear: transformational leadership is considered to be leadership, whereas transactional leadership, despite its name, is regarded not as leadership but rather as management. Transactional leadership behaviour consists of contingent reward (e.g., setting goals), management by exception (i.e., actively or passively concentrating on deviations in employee performance from a minimal standard), and laissez-faire behaviour (e.g., failing to take responsibility or action). According to the augmentation hypothesis, the potentially positive influence of transactional leadership is augmented by transformational leadership. The empirical support for the effectiveness of transformational and the contingent reward dimension of transactional leadership is considered to be well validated (Judge & Piccolo, 2004). However, analyses have also indicated that transformational and transactional leadership omit leader behaviours of particular relevance to task performance (Michel, Lyons, & Cho, 2011), which is in line with the observation that, across meta-analyses, transformational leadership appears to exert stronger influence on employee attitudes and motivation, than on performance (Tafvelin, 2013).

#### **4.2.5 The Change, Production, Employee model of leadership**

Concurrently with the growing popularity of transformational leadership in the 1990s, the traditional two-factor leadership theory comprising a relation-oriented dimension and a task-oriented dimension was extended to encompass a third dimension of change orientation (Ekvall & Arvonen, 1991; Yukl, 1999). Change orientation includes behaviours such as encouraging innovative thinking and communicating visions, and thus approaches the transformational leadership theory. The logic behind this addition was that working life had changed significantly during the 1970s and the 1980s, from entailing stable industrial conditions to representing an environment characterized by increasing globalization and competition, new conditions that created a need for more frequent organizational adjustments (Arvonen, 2002). Three-factor models of leadership have been suggested to predict various effectiveness outcomes which is well in line with the combined transformational–transactional leadership model, and also to include important behaviours important to task performance, such as short-term planning and clarifying roles (Michel et al., 2011).

The Change, Production, Employee (CPE) model of leadership (Ekvall & Arvonen, 1991) was developed based on how 6,400 subordinate employees (in 13 countries, including Scandinavian and US samples) rated the behaviour of their immediate manager (Arvonen, 2002). Exploratory and confirmatory factor analyses consistently confirmed that managers'

leadership behaviour could be grouped into three distinct orientations: change (exemplified above), production (e.g., behaviours related to organization of work, corresponding to task orientation), and employee (e.g., behaviours related to consideration for employees, corresponding to relation orientation). Support for the validity of the CPE model has been gained across countries and branches, as well as within healthcare services in Sweden (Fjell, Osterberg, Alexanderson, Karlqvist, & Bildt, 2007; Larsson & Vinberg, 2010; Sellgren, Ekvall, & Tomson, 2008).

The CPE model is largely compatible with the previously described logics of managerial responsibility in healthcare (Dellve & Wikström, 2006), which suggests that this model covers important aspects of leadership in healthcare. Moreover, in a study conducted by Sellgren et al. (2006), the results implied that subordinate staff in healthcare preferred more production-oriented behaviour compared to what their managers preferred and compared to what the subordinates themselves perceived that they received. This finding, together with the observation that three-factor models of leadership appear to include important task/production-oriented behaviours related to managerial effectiveness (Michel et al., 2011), indicates that it is appropriate to apply the CPE model in a healthcare setting.

### **4.3 MEASURING LEADERSHIP BEHAVIOUR**

It may seem that the most natural approach to assessing the behaviour of a selected category of professionals (here healthcare managers) would simply be to observe what those individuals actually do. According to Baumeister, Vohs, and Funder (2007), this was to a large extent the main strategy in earlier research, whereas interest gradually shifted towards the inner processes that precede behavioural expression. This change further stimulated competing ideas about the character of these internal processes, which eventually became the dominating focus in this line of research. In parallel, methodology was modified to include measuring behaviour by use of surveys (i.e., by rating behaviours). Although subject to debate, performing surveys is now the foremost method for assessing behaviour in the fields of personality and social psychology (Baumeister et al., 2007), and the study of leadership also heavily relies on surveys (Larsson & Lundholm, 2010). This approach has the advantage of enabling evaluation of the behaviour of a large sample of managers, but it also has the drawback of requiring a focus on broad categories of behaviour and hence may not reliably capture the phenomenon of interest. Moreover, research has shown gaps between what people say they would do when presented with a hypothetical situation, and what they actually do when confronted with the same situation in reality (Baumeister et al., 2007), which indicates that behaviour ratings made using a questionnaire may not always measure the intended target. One way to mitigate potential sources of error in self-ratings is to complement with ratings made by other respondents, as is done with a 360-degree instrument.

Providing managers with performance feedback based on a 360-degree instrument has become widespread among practitioners, and research in this field has grown dramatically since the 1990s (Morgeson, Mumford, & Campion, 2005). The term 360-degree refers to performance ratings for a target manager provided by two or more of the following sources: the manager him-/herself, a supervisor, colleagues, and subordinates. There are several reasons for including multiple rater sources, and one important objective is psychometric in

nature, because multiple assessments can increase reliability and validity (Morgeson et al., 2005). Indeed, a number of studies have reported incongruence in self-other agreement in 360-degree ratings; compared to ratings made by others, some managers inflate their self-ratings while some undervalue their ratings (Atwater & Yammarino, 1992; Mabe & West, 1982), which supports the need for additional perspectives in self-ratings. However, in a meta-analysis conducted by Conway and Huffcutt (1997), the mean correlations between subordinates' ratings and other rater sources, as well as the mean correlation between self-ratings and other rater sources, were low (.14 to .22), whereas the correlation between supervisor and colleague ratings was somewhat higher (.34). A higher number of raters in a 360-degree instrument has been shown to be positively associated with both reliability and correlation between rater sources (Hensel, Meijers, van der Leeden, & Kessels, 2010), and the authors reporting that ten raters were needed to reach a satisfying reliability level of .70.

The application of providing managers with performance feedback based on a 360-degree instrument has become widely spread among practitioners, and the research field has grown dramatically since the 1990s (Morgeson, Mumford, & Campion, 2005). The term 360-degree refers to performance ratings gathered about a target manager from two or more rating sources, including self, supervisor, colleagues, and subordinates. There are several reasons for including multiple rater sources, of which one important is psychometric, as multiple assessments can increase reliability and validity (Morgeson et al., 2005). Indeed, a number of studies have reported incongruence in self-other agreement in 360-degree ratings; compared to ratings made by others, some managers inflate their self-ratings while some undervalue their ratings (Atwater & Yammarino, 1992; Mabe & West, 1982), supporting the need for additional perspectives to self-ratings. However, according to a meta-analysis by Conway and Huffcutt (1997), the mean correlations between rater sources (manager self-ratings, supervisor, colleagues, and subordinates) were low for subordinate ratings and self-ratings (between .14 and .22), while the correlation between supervisor and colleague ratings were somewhat higher (.34). However, the number of raters in a 360-degree instrument has been shown to be positively associated with both reliability and correlation between rater sources (Hensel, Meijers, van der Leeden, & Kessels, 2010). The authors of that study indicated that ten raters were needed in order to reach a satisfying reliability level of .70.

The relative lack of agreement between rater sources can be considered a validity problem, but another interpretation is to view each rater source's perspective on the managers' performance as unique and yet potentially valid (Craig & Hannum, 2006). In line with this, Oh and Berry (2009) found that supervisors, colleagues, and subordinates differed regarding patterns of the relationship between their 360-degree ratings (of two dimensions of managerial performance) and the managers' self-rated personality. However, it is still not known how a potential pattern of a relationship between 360-degree assessment of a three-factor leadership model (e.g., the CPE model) and the managers' self-rated personality would be displayed, and if narrow personality variables may explain variance over and above broader personality dimensions.

#### **4.4 LEADERSHIP, WORK ENVIRONMENT, AND DISTRESS**

It is well known that a work environment comprises potentially stressful job characteristics. Psychosocial work stressors are factors that cause distress, and they can be manifested in

many forms, such as perceptions of job insecurity, insufficient reward, organizational injustice, lack of support, harassment, and role conflict (Mark & Smith, 2008). Numerous empirical investigations and meta-analyses have found work stressors to be risk factors for an array of individual physical and psychological problems (e.g., Hausser, Mojzisch, Niesel, & Schulz-Hardt, 2010; Kivimaki et al., 2006). The Job Demand–Control (JDC) model (Karasek, 1979; Karasek & Theorell, 1990) has played an important role in occupational health psychology research since the 1980s, and it is one of the most extensively evaluated models concerning the influence of work stressors on employee distress.

#### 4.4.1 The Job Demand–Control model

The JDC model considers the two dimensions of psychological demands of work and control over the work situation, each of which can be at either a high or a low level. Job demands refer to organizational aspects regarding work pace requirements, constraints on task completion, and conflicting demands. Control is often called decision latitude and is subdivided into decision authority and skill discretion. Decision authority measures employees' control over time allocation and organizational decisions, and skill discretion measures the opportunity to use specific skills at work and perceived meaning of work. The JDC model contains two hypotheses about the consequences of particular combinations of job demands and control: one that concerns how an individual's level of strain is affected (strain hypothesis), and another that deals with the level of motivation and learning. Two combinations of job demands and control have a critical impact, albeit in contrasting ways: the combination of a high level of demands and a low level of control is considered to represent a high-strain job and is associated with an increased risk of psychological and physical illness (Figure 1); the combination comprising high levels of both demands and control is called an active job, in which stress can be positive and motivating, and stimulate learning.

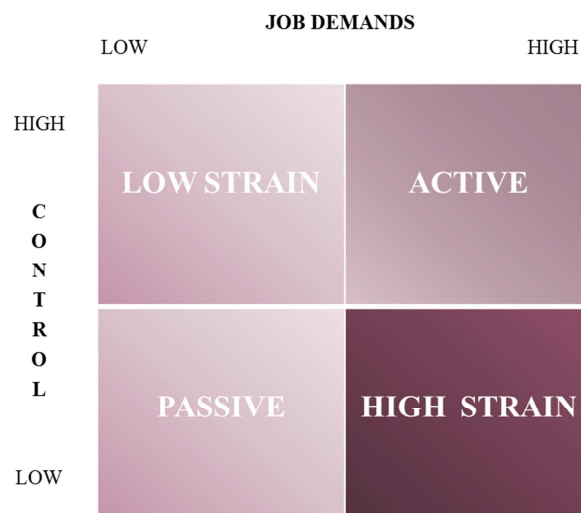


Figure 1. The Job Demand–Control model.

The work situation of managers is normally placed in the active job category, because their organizational position allows greater freedom to operate (e.g., regarding decision making and where and when to work) (Skakon, Kristensen, Christensen, Lund, & Labriola, 2011). At the end of the 1980s, the Job Demand–Control–Support model was formulated to include social support at work (Johnson & Hall, 1988; Johnson, Hall, & Theorell, 1989), assuming that the negative influence of a high-strain work situation is mitigated by social support. In that model, the combination of high job demands, low control, and low social support constitutes the most unhealthy work situation (called the iso-strain hypothesis). To avoid overlapping constructs between the social support dimension and employee-oriented leadership, only the dimensions of the original JDC model were included in the present studies.

Two comprehensive meta-analyses covering the periods 1979 to 1997 (Van der Doef & Maes, 1999) and 1998 to 2007 (Hausser et al., 2010) have indicated consistent support for the strain hypothesis in relation to distress outcomes. Furthermore, there was stronger evidence for an additive effect than for an interactive effect. The additive effect assumes that job demands and job control do not affect each other; hence both demands and control need to be at an optimum level. According to this hypothesis, increasing the level of control will not mitigate the impact of high demands. In contrast, if the effect is interactive, it can be assumed that job demands and job control will influence each other. The implication of this hypothesis is that it might not be necessary to reduce job demands, because increased control will buffer the impact of high demands. Inasmuch as the support for an additive effect is stronger, and that the dimensions also alone may be associated with job strain (Daniels, Beesley, Wimalasiri, & Cheyne, 2013), it was decided to study the dimensions of the JDC model separately in the present thesis.

#### **4.4.2 Job strain in subordinate employees and managers**

Among health workers, support for the strain hypothesis has been gained in relation to a variety of psychological well-being outcomes, such as mental health (Amick et al., 1998), psychological distress (Bourbonnais, Comeau, Vezina, & Dion, 1998), sleep quality (Winwood & Lushington, 2006), and job dissatisfaction and emotional exhaustion (de Jonge, Dollard, Dormann, Le Blanc, & Houtman, 2000). Research focusing on work-related distress for managers is scarce (Rodman & Bell, 2002; Skagert et al., 2004). Managers normally handle a massive workload (Brett & Stroh, 2003) and it would therefore be logical to consider them a high-risk occupational group. However, the few studies that have been conducted tend to report good health in managers in general, despite high levels of distress (Johansson, Sandahl, & Hasson, 2013). Johansson and colleagues (2013) found that, compared to registered nurses, first-line nurse managers had higher levels of job demands, but they also had more managerial support and higher levels of control. Those authors concluded that a higher level of control helped the nurse managers to cope with greater demands, which agrees with a previous study (Bernin & Theorell, 2001), but is in contrast with earlier difficulties to finding support for the buffer hypothesis. An alternative interpretation is that the control dimension alone is negatively associated with distress outcomes, as suggested by Daniels et al (2013).

Even if managers generally seem to enjoy good health, albeit in combination with symptoms of distress, it is likely that there are sub-groups of managers that are not as fortunate. In an investigation of public managers, about 10% of higher-level managers and 20% of lower-level managers reported job strain (Bjorklund, Lohela-Karlsson, Jensen, & Bergstrom, 2013), which indicates that management level moderates the level of job strain. Moreover, the cited study showed that 23% of women with a lower-level managerial position perceived having low control and high demands, whereas the same was noted for only 7% of men with a higher managerial position. Thus it appears that gender and hierarchical level are related to differences in perceptions of job demand and control.

#### **4.4.3 Managers' leadership and distress**

Research to date has paid little attention to how managers' leadership is related to the way the managers themselves experience work distress. This is surprising, given the extensive amount of research demonstrating a relationship between work environment and employee distress, and the established association between leadership and employee well-being (Skakon et al., 2010). Logically, managers, as employees themselves, should also be affected by the level of job demands and control in their work environment. Also, based on previous studies showing differences between sub-groups of managers with respect to how they perceive job demands and control, it is possible that there are other types of sub-groups that exhibit a similar pattern. In this context, leadership profile is an interesting line to further investigate. Only a few studies have addressed this subject: in hotel managers, higher passive/avoidance leadership was found to be associated with higher levels of burnout (Zopiatis & Constanti, 2010), and in college athletic directors, collaborative leadership style was observed to predict burnout symptoms (Ryska, 2002). However, little is known about how leadership profiles based on a three-factor model of leadership (e.g., the CPE model) are related to symptoms of distress and personal experiences of job demands and control, and how these aspects apply to managers in healthcare.

#### **4.4.4 Leadership and employee distress**

In addition to leadership potentially being related to managers' own perceptions of job demands, control and distress, it is plausible that leadership might indirectly affect subordinates' perceptions of the same variables. A consistent relationship between leadership and well-being (absence of distress) was recently reported in a review of 30 years of research (Skakon et al., 2010). In agreement with this, correlation with leadership has been found for a multitude of employee outcomes, such as ischaemic heart disease (Nyberg et al., 2009), stress (Westerlund et al., 2010), work climate (Malloy & Penprase, 2010), and sick leave and disability pension (Kuoppala, Lamminpaa, Liira, & Vainio, 2008). In the field of nursing management, leadership has been shown to be related to employee burnout (Kanste, Kyngas, & Nikkila, 2007), job satisfaction (Cummings et al., 2010; Sellgren et al., 2008), and moral distress (de Veer, Francke, Struijs, & Willems, 2013). Nonetheless, it is still largely unknown what processes are involved in these relationships, and whether leadership influences employee distress directly or indirectly via the work environment. The indirect influence of leadership has received increasing attention in recent years through investigations of mediating variables. Studies in healthcare settings have focused on mediating variables such as meaningful work (Arnold, Turner, Barling, Kelloway, & McKee, 2007), positive climate

for innovation (Tafvelin, Armelius, & Westerberg, 2011), and role clarity, meaningfulness and opportunity to develop (Nielsen, Randall, Yarker, & Brenner, 2008; Nielsen, Yarker, Brenner, Randall, & Borg, 2008). However, considering the extensive support for the strain hypothesis (Hausser et al., 2010; Van der Doef & Maes, 1999), it is plausible that the work environment dimensions of the JDC model are involved in the relationship between leadership and employee distress. These dimensions remain to be investigated.

## **4.5 LEADERSHIP AND PERSONALITY**

Personality can be defined as an individual's internal dynamic organization of psychophysical systems that creates coherent and consistent patterns of behaviours, thoughts, and feelings (Carver & Scheier, 2000). One of the major approaches used to study personality is to apply trait theories (other categories of theories being psychodynamic, behavioural, social learning, or interactionist theories). The aim of trait theories is to identify a number of fundamental personality variables that can potentially explain a large proportion of the variation in human behaviour (Campbell, Simpson, Stewart, & Manning, 2003).

The association between personality and work-related outcomes such as job performance and leadership has been studied for more than a century, thus representing one of the earliest approaches intended to reveal differences between individuals in these respects. However, research in this area long failed to yield substantial and consistent findings, partly due to the lack of a system for classifying traits and the previously mentioned "labelling dilemma" (Judge et al., 2002). This is exemplified by a review conducted by Bird in (1940), which comprised 20 articles published at that time and revealed 79 personality traits, of which only 5% occurred in four or more of the 20 investigations. Hence the personality research field was in desperate need of a classification system that could enable conclusions to be drawn across studies, and this requirement was eventually fulfilled by the five-factor model, "Big Five" (McCrae & Costa, 1987). The advent of the Big Five personality taxonomy in the 1980s was considered to have a significant impact, as illustrated by authors describing research in the personality field as being divided into the period before and the period after the Big Five (Barrick et al., 2001).

### **4.5.1 The Big Five model**

The Big Five model is the most widely accepted personality taxonomy, and according to the model, the previously overwhelming array of personality traits can be factor-analytically reduced to only five fundamental factors of broad personality dimensions. There is substantial support for the notion that most personality traits can be empirically mapped on to five more global personality dimensions (Goldberg, 1990; McCrae & Costa, 1997). The broad dimensions of the Big Five model assess an individual with regard to levels of *extraversion* (gregarious, socially poised, and prone to positive emotions), *agreeableness* (prosocial and altruistic), *openness to experience* (interested in new experiences, stimuli, and perspectives), *conscientiousness* (hardworking, organized, and ambitious), and finally *emotional stability* (free from negative emotional tendencies such as depression, anxiety, and anger), which is sometimes conversely referred to as emotional instability or neuroticism. These fundamental personality dimensions have been indicated to be stable across situations, instruments, samples, cultures, and time, and are seen as substantially heritable (John, Robins, & Pervin,



2008). However, the view that personality is stable has also been challenged in studies suggesting that personality develops in response to life experiences (Edmonds, Jackson, Fayard, & Roberts, 2008) and leadership development (Romanowska et al., 2011).

#### **4.5.2 Personality prediction of job performance and leadership**

A number of meta-analyses of the Big Five personality variables have shown an association with performance in both academic studies (Poropat, 2009) and at work (Barrick & Mount, 1991; Tett, Jackson, & Rothstein, 1991). In a summary of 15 meta-analyses of the relationship between the Big Five dimensions and job performance, Barrick and co-authors (2001) identified the personality trait conscientiousness as having the highest validity as a predictor, and also as being the most consistent predictor across occupations and types of criteria. Emotional stability was also correlated with overall job performance, although not as markedly as conscientiousness, whereas the remaining three personality traits predicted some criteria for some occupations (e.g., extraversion predicted performance in managerial positions). However, the authors concluded that the magnitude of the validities was generally low ( $< .30$ ).

In addition to being the strongest predictor of overall job performance, conscientiousness also appears to be an important predictor in the relationship between personality and leadership, with extraversion as a complement. In an oft-cited meta-analysis, Judge and colleagues (2002) used the Big Five model as an organizing framework to analyse 222 correlations from 73 samples, which showed that the overall correlation of the Big Five with leadership criteria was .48. Furthermore, extraversion was the most consistent correlate across studies, with a coefficient of .31, and correlation values for the other Big Five dimensions separately were as follows: .28 for conscientiousness, .24 for openness to experience,  $-.24$  for emotional instability/neuroticism, and .08 for agreeableness. In another meta-analysis of 26 studies, including 384 correlations (Bono & Judge, 2004), extraversion also appeared to be the best predictor of transformational leadership, although the associations observed in the study were generally weak. The importance of extraversion and conscientiousness was further supported in a more recent meta-analysis (DeRue, Nahrgang, Wellman, & Humphrey, 2011), which identified those traits as being most strongly related to leader effectiveness.

When reviewing the literature concerning traits related to leadership, it is necessary to emphasize the distinction between leader emergence and leader effectiveness. A particular personality trait may explain why a certain person emerges as a leader, but the same trait may not predict leader effectiveness. In general, studies have found that personality traits account for a relatively large proportion (55–60%) of the variance in explaining who will emerge as a leader (Ferentinos, 1996; Zaccaro, Kenny, & Foti, 1991). This research is often based on laboratory social experiments such as leaderless group discussions in which a small number of unacquainted individuals are assigned to complete a task within a limited amount of time and in an ambiguous setting with no formal roles (such as leader) (Bass, 1950).

An association between traits and leader effectiveness is rather consistently supported across studies, although it is weaker than the relationship observed between traits and leader emergence. The meta-analyses concerning personality and leader effectiveness conducted by Hoffman, Woehr, Maldagen-Youngjohn and Lyons (2011) and Judge et al., (2002) showed

correlation coefficients of approximately .25 for various traits (intelligence, creativity, integrity, and the Big Five dimensions), which explains up to 10% of the variance in leadership criteria in the strongest correlation coefficient (.31 for extraversion). However, Judge and colleagues also found that multiple correlation of the Big Five variables was .48, explaining 23% of the variance. That finding agrees with the results of a meta-analysis carried out by DeRue et al. (2011) showing that the Big Five dimensions combined explained 2–22% of the variance in four criteria: 22% for leader effectiveness, 14% for group performance, 2% for follower job satisfaction, and 6% for satisfaction with leader.

In summary, research in this field suggests that personality characteristics are more extensively associated with the variance regarding who will emerge as a leader than with the variance in who will be the more effective leader. Conscientiousness and emotional stability appear to be the best predictors of overall job performance, and conscientiousness and extraversion seem to best explain variation in criteria related to leadership. Notwithstanding, as also indicated above, the magnitude of the correlations between the Big Five and work-related criteria has generally been low (Barrick et al., 2001), which has been the subject of a debate concerning the usefulness of personality tests to predict performance outcomes. Some researchers have argued that the use of personality tests should be abandoned (Morgeson et al., 2007), whereas others have proposed ways of advancing such practice (Tett & Christiansen, 2007). One suggestion is to study trait predictors that are narrower than the Big Five in relation to specific job performance criteria (Bono & Judge, 2004; Tett et al., 2003). Underneath each Big Five variable is a cluster of narrower personality variables that share communalities, but also contain specific variance (Christiansen & Robie, 2011). It has been shown that stronger correlations with outcome criteria are obtained with narrow trait variables than with broad dimensions (Christiansen & Robie, 2011; Conte & Gintoft, 2005). However, it is not yet known if narrow variables add predictive validity to broad Big Five variables in ratings of leadership from different perspectives (self-ratings, superiors, colleagues, and subordinates).

#### **4.6 LEADERSHIP DEVELOPMENT**

Organizations regularly invest considerable money and time in leadership development interventions to strengthen and protect their human capital (Day, 2001). The market for such development has grown continuously in recent decades, and the same applies to the scholarly interest in this field, primarily during the last 15 years. This trend can be viewed against the background of an increasing body of knowledge showing the potential impact that a leader can have on group and organizational effectiveness outcomes, but it might also be understood as being a consequence of a more flexible labour market and hence also a competitive advantage in attracting and keeping the best human capital. Moreover, some argue that the expectations on the manager role have shifted from demanding the knowledge of a specialist to requiring knowledge on a more general level combined with skills in managing personnel (Nilsson, 2005). In healthcare, the manager role was long seen as a mere administrative function (Harrison & Pollitt, 1994). Today, a healthcare manager with leadership skills is important to attract employees (Pernulf, 2006). These skills, along with other proficiencies associated with leadership, are generally regarded as being possible to train and develop (Day et al., 2014).

The number of Swedish employees participating in such development interventions is largely proportionate to the number of managers in public and private sector, as illustrated by government statistics indicating that of all those attending management- and leadership-related development programmes in recent years, around 65% came from the private sector and 35% from public sector (18% from municipal agencies, 9% from national government organizations, and 8% from county councils (M. Fritz, Statistics Sweden, personal communication, June 11, 2015).

#### **4.6.1 Defining leadership development**

Day (2001) distinguished between leader and leadership development, with the former referring to development of the individual leader, and the latter describing developmental initiatives that include both the leader and the followers and thus represent a relational approach to leadership development. It should however be noted that the term leadership development has a dual meaning, in that it is also used in the literature as a comprehensive concept that includes both leader and leadership development. According to Day's terminology, the programme applied in the present research can be described as a *leader* development intervention, because it did not involve the followers. Nevertheless, the generic term leadership development has been used in the present thesis also to refer to the intervention evaluated in the current studies. Another distinction concerns the term "intervention", which is defined here as outlined by Barling (2014) to refer to a formal, planned initiative that has a specified duration and targets a group of participants. This is in contrast to one-to-one methods of leader development, which involve mentoring or coaching and also tend to vary in duration.

#### **4.6.2 Evaluation of the effects of leadership development**

The purpose of evaluating a leadership development intervention is to determine whether it has the intended effect. While in Sweden evaluations based on qualitative or mixed methods are common (Nilsson, 2005), internationally quantitative evaluations dominate. Both within-subject designs (single group) and between-subjects design (including a control group) are wide-spread (Collins & Holton, 2004). The randomized controlled trial (RCT) research design is considered to be the best design to answer the questions of whether any changes have occurred between pretest and posttest, and, if so, whether the changes were caused by the intervention (Hannum, Martineau, & Reinelt, 2006; Kristensen, 2005). However, for most development interventions, it is difficult to apply the strict RCT criteria (see method section) (Kristensen, 2005), e.g., because an organization might be unwilling to let half of the targeted employees be randomized to a control group that is put on a waiting list for participating in the intervention. Another example is an intervention addressing team-work, which impedes individual randomization. Further, RCT has been increasingly questioned as a suitable design for complex social intervention (which applies to leadership development). A development intervention is difficult to standardize to the extent that would be needed to meet the requirements of an efficacy trial – there will be variability in the context, content, application, and outcomes (Schelvis, Strijk, & van der Beek, In press; Walshe, 2007), which may generate less valid causal inferences. However, although the need for process evaluation (investigating how and why interventions succeed or fail) has been called for (Nielsen & Randall, 2013), the RCT design continues to be recognized as the most powerful approach for demonstrating

causality also in complex social interventions (Barling, 2014; Hannum, Martineau, & Reinelt, 2006; Walshe, 2007).

The number of evaluations conducted in the leadership development field has increased substantially since the beginning of the 21st century, and today there is no shortage of assessments of leadership interventions (Barling, 2014). Despite this situation, it is difficult to compare the results of such studies, because they vary markedly with respect to the content, length, and type of the interventions performed, as well as the outcome measures used and the methodological rigour (Barling, 2014). Still, several conclusions can be drawn from a number of meta-analyses that have been carried out during the last decade. First, although findings vary considerably between studies, it can be said that leadership interventions generally have been found to have positive effects (Collins & Holton, 2004). For example, Avolio and colleagues (2009) showed that, on average, participants in leadership development interventions were 30% more likely to achieve better outcomes compared to non-participants. Second, it has been demonstrated that the type of outcome measure has an impact on effect sizes, which are normally seen to be larger for learning/knowledge outcomes (relatively straightforward to measure) than for behavioural outcomes (Collins & Holton, 2004). Also, self-report measures are commonly used, and investigations that only include subjective ratings tend to report more favourable results compared to more exhaustive studies (Terpstra, 1981). Third, most of the leadership development interventions that have been assessed have been of relatively short duration: only 9% of the interventions included in the meta-analysis conducted by Avolio and colleagues (2009) were more than 7 days in length. The need for longitudinal studies with repeated measures to evaluate temporal effects of leadership interventions has been pointed out by several researchers (Day, 2011; Riggio & Mumford, 2011).

Another characteristic of short interventions is that they typically comprise workshop training activities, that is, they provide practice in proven solutions to known problems (Kelloway & Barling, 2010). Short interventions targeting known scenarios might not be the best way to help leaders cope with the increased level of complexity that prevails in workplaces today (Day et al., 2014). Perhaps the complex challenges that healthcare managers must currently face are neither easy to frame nor simple to address by applying fixed solutions. Alternatively, leadership development might be better supported by preparing managers for more ambiguous circumstances by teaching them how to learn their way out of problems, an approach which has been evaluated with positive results for physicians and managers in healthcare (Bergman, 2009). Another example of such an intervention is an investigation of a 10-month experimental art-based leadership development programme that offered no “tools” for the leadership toolbox (Romanowska, 2014), yet was found to have positive psychological and physiological effects on both the participating managers and their subordinates.

#### **4.6.3 Methods of developing leadership**

Leadership development comprise a wide range of methods, both traditional class-room based programs or outdoor challenge programs off-site (away from work) and on-the-job programs such as action learning and 360-degree feedback. These methods can be divided into three categories based on the different aspects they are intended to address: (i) the

cognitive understanding of leadership (knowing leadership); (ii) the behavioural understanding of leadership (acting leadership); (iii) the emotional understanding of leadership (feeling leadership) (Jackson & Parry, 2008). Jackson and Parry (2008) argues that the cognitive and the behavioural understanding of leadership might be taught (and those aspects also most frequently constitute the content of leadership development programmes) and that development in these areas can *support* the individual manager in leading, although these abilities merely represents “a means to an end” (Jackson & Parry, 2008, p. 118). It is somewhat unclear what the authors actually mean by “emotional understanding of leadership”, although it is similar to the distinction of *Techné* (skill), *Episteme* (knowledge), and *Phronesis* (wisdom) in learning leadership that was made by Aristotle. In relation to the notion of “wisdom” of leadership, it has been concluded that wisdom can be achieved solely through continual reflection on one’s own experiences (Grint, 2007, referred to in Jackson and Perry, 2008). Thus wisdom in leadership cannot be taught, it has to be subjectively collected through experiences of leading, which might also pertain to development of an emotional understanding of leadership.

Some leadership educators perceive the art of reflection as the foundation for learning how to become a better leader (Sinclair, 2007). Reflection differs from other types of thought in that it involves both a state of doubt and active searching for cognitive material to resolve this doubt (Dewey, 1933). For instance, Densten and Gray (2001) have asserted that reflection is important for leaders to be able to understand how they selectively pay attention to certain situations, how they interpret their own observations, and how they comprehend dilemmas or situations from different perspectives. The managerial collective is normally more inclined to act rather than reflect (Thylefors, 2007), which, according to this reasoning, may impede development towards a more integrated leadership role. Hence, one way of supporting leadership might be to formalize the use of reflection on experience. To that end, it is plausible that backstage groups based on experiential learning can be an effective method.

#### **4.6.4 Backstage groups**

The designation “backstage groups” (also known as dialogue groups) was inspired by the thoughts of the Canadian sociologist Erving Goffman (1959), who studied social interaction in terms of theatrical performance. In Goffman’s view, we live our lives as actors on a stage in front of an audience, and in every social interaction we perform our identity through a role characterized by our clothing, words, and actions. This “front stage” performance sometimes needs to be complemented with a “back stage” arena, where we can step out of character and reflect on our roles without any audience present. This is analogous to a group of actors and their director, who are backstage after a play has ended and the audience has left, taking the time to reflect on and discuss the performance. Analogously, managers might benefit from reflecting on and learn from their everyday experiences of being a leader in order to develop their leadership role (Sandahl, Falkenström, & von Knorring, 2010).

In backstage groups, managers (or others professionals) meet once a month to discuss and reflect on issues tied to their leadership role in everyday practice (Sandahl, Edenius, Gustafsson, & Wahlström, 2007). The structure of the sessions (see method section for detailed description) is based on the theory of experiential learning (Kolb, 1984), a learning theory that rests upon the intellectual origins of Kurt Lewin, John Dewey and Jean Piaget,

who all viewed learning as a process of adaptation. In the experiential model, knowledge is assumed to build on personal experience that is reflected upon, which enables an abstract and conceptualized understanding of the experience, thus providing the opportunity to be actively experimented upon, and leading to new personal experiences (Figure 2).

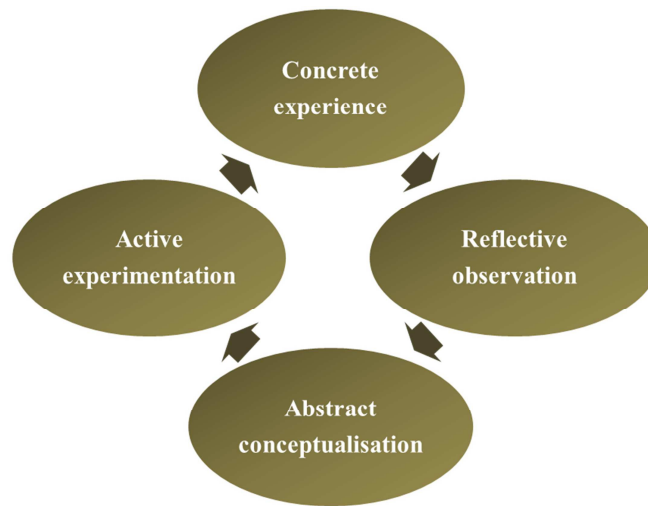


Figure 2. The learning cycle of Kolb.

Thus, to Kolb, learning involves a process where concepts are derived from and continually altered by experience. Previous studies of the backstage model in healthcare suggest that the perspective of the leader role can be broadened and the understanding of the overall purpose of the organization can be strengthened (Bergman, Fransson-Sellgren, Wahlstrom, & Sandahl, 2009; Bergman, Stotzer, Wahlstrom, & Sandahl, 2009). The participants can also develop better coping skills and enhance their self-knowledge and self-confidence (Sandahl et al., 2007). Although in Kolb's view learning is best conceived as a process and in terms of its outcomes, the purpose of leadership development is often about trying to enhance leader effectiveness in the organization (Powell & Yalcin, 2010). Any enhancement in leader effectiveness requires the leaders to do something slightly different than before, i.e. change the behaviour. In a review of Baumeister, Masicampo, and Vohs (2011), the authors reported strong support for the notion that conscious thoughts produce behaviour and conscious thoughts have also been shown to generate changes in behaviour, both on short- and long-term (Geraerts et al., 2008). Thus, it is possible that managers reflecting on their leadership might modify their leadership behaviour as a consequence of this. The above mentioned previous evaluations of backstage groups have primarily focused on the participants' own perceptions of the interventions. While a positive reaction from participants is an important starting point for continuous evaluation of a program, the assessment of behaviour change would extend the effectiveness evaluation of the intervention. Normally, the purpose of leadership development includes indirect effects in the organization, such as employee well-being or effectiveness (Nielsen, Taris, & Cox, 2010) and employees' observation of changed leadership behaviour should forego potential changes of employees' attitude and motivation (Kelloway & Barling, 2010). Thus, for the present evaluation of a backstage group intervention, a 360-degree instrument measuring leadership behaviour was applied.

## **5 METHODS**

### **5.1 GENERAL PROJECT METHODS**

The method section will initially report the method in the thesis project as it applies to all studies, and thereafter method characteristics for each study will be presented.

#### **5.1.1 Study design**

The design of the RCT is intended to ensure that the outcome, by which an intervention is evaluated, is not influenced by another variable than the intervention under investigation. The RCT contains four essential characteristics, which, when applied together, allow for conclusive inferences about effectiveness to be drawn; i) randomization of subjects to groups, ii) the use of a control group, iii) prospective design (pretest and at least one posttest), iv) the intervention in itself. The randomization procedure impedes that the subjects entering the intervention or the control group differ in some kind of important way (i.e., selection bias; for example by having different levels of motivation) or that a third confounding variable influences the relationship between the intervention and the outcome. All these essential characteristics were applied in the present project.

#### **5.1.2 Study setting**

The four studies underlying this thesis were based on data collected in a project entitled “Effects of Leadership Development in a Healthcare Organization”, which was effectuated in 2010–2013 after being established in 2009 through collaboration between the Medical Management Centre at Karolinska Institutet and the Human Resource (HR) Section of SLSO. SLSO was interested in implementing and evaluating a leadership development intervention. Participation in such an intervention was to be offered to all healthcare managers with the overall aim of providing support and better understanding of the managerial role in SLSO.

SLSO is the third largest healthcare organization in Sweden, with 11,600 employees serving 25 municipalities with a population of 2 million. Healthcare is commissioned by Stockholm County Council. Around half of care is provided within operations that are owned directly by the County Council, a quarter by County Council-owned companies, and a quarter by private care providers. In approximately 700 units, SLSO delivers primary care and care in the areas of geriatrics, psychiatry, child and adolescent psychiatry, dependency disorders, and rehabilitation, among others.

#### **5.1.3 Procedures**

In spring 2010, SLSO invited all of their first- and second-line managers ( $n = 589$ ) to participate in a 10-month leadership intervention consisting of backstage groups (see “Interventions”). The invitation was disseminated in several ways: in an e-mail from the Healthcare Director to the managers, on the SLSO intranet, and in a digital newsletter regularly distributed to the managers by e-mail. This initial invitation contained information about the backstage groups, the purpose of the intervention, and the studies to be performed to evaluate the intervention. The managers were also informed that participation in both the intervention and the evaluation studies was voluntary, that it was possible to take part in the

intervention without participating in the studies, and that confidentiality and anonymity was guaranteed to those who agreed to participate in the assessments. Inasmuch as SLSO regarded evaluation of the leadership programme as an important aspect, the organization accepted use of a RCT design, which was suggested by the researchers. The initial invitation contained information about this design, explaining that the managers were to be randomized to a waiting list group or to a backstage group. This led to discontent among several of the managers, because they did not want to be in the waiting list group for a year before they could attend the programme. Some of them informed the SLSO HR Section that they would instead find some other leadership programme outside SLSO. To avoid this, it was decided to offer a second type of leadership intervention based on theoretical seminars, which was to be provided in parallel to the backstage groups. Hence, rather than comparing the backstage group with a waiting list control group in the analysis, the comparison was to be made with a traditional theoretical leadership intervention. Considering that SLSO was interested in offering participation in the backstage groups to all of their managers, the project was designed as an RCT with crossover (Figure 3).

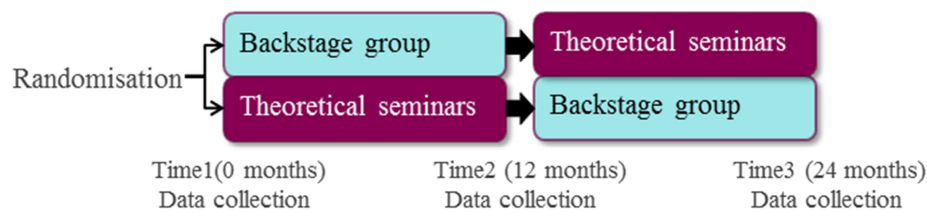


Figure 3. The randomized controlled trial with a cross-over design

The mentioned change was described in a second invitation that was sent by e-mail to all managers ( $n = 589$ ), and the managers that wished to participate were encouraged to sign up at the SLSO HR Section. A doctoral student working part-time at the HR Section was in charge of randomizing the managers to initially take part in either the backstage groups or the theoretical seminars. For the managers that accepted to participate in both interventions and in the evaluation, their supervisors and a number of their subordinates and colleagues were contacted by e-mail with an offer to participate in the research project. The subordinates were randomly selected by SLSO in the following manner: for each healthcare manager, a list of the subordinates' last names in alphabetic order was entered in Microsoft Excel 2010 and randomized using the relevant function; thereafter, the first fifteen names on the randomized list were chosen. In addition, SLSO selected the managers' colleagues based on these criteria: (i) they reported to the same superior as the participating manager; (ii) if possible, they themselves did not participate in the interventions. Up to five colleagues per manager were selected.

The participating healthcare managers, their superiors, and the selected colleagues and subordinates were invited via e-mail to respond to a web-based survey at three time points: at Time1 (0 months), before the onset of the interventions; at Time2 (12 months), before the groups shifted intervention arm; at Time3 (24 months), after both groups had completed both intervention arms (Figure 3). Furthermore, the same programme was implemented at two



different time points (September 2010 and January 2011) due to the large interest in the leadership interventions (see section headed “Participants”), in order to enable all managers to participate if they wished to do so. Based on statistical power-calculations, yet another intervention with only backstage groups was implemented in September 2011, due to the number of early drop-outs in the previous programmes. The two interventions included in the leadership programme (i.e., theoretical seminars and backstage groups) were held at SLSO facilities.

#### **5.1.4 Participants**

##### *Managers*

Figure 4 presents an overview of the flow of participating managers through the interventions. Of the 185 healthcare managers who initially volunteered to take part, 23 dropped out before the onset of the programme (15 from the backstage groups and eight from the theoretical seminars); this resulted in a loss of statistical power, and therefore an additional cohort of backstage groups ( $n = 40$ ) was later added. Thus, a total of 202 managers were invited by e-mail to complete the web-based survey at Time1, and the response rate was 95% ( $n = 193$ ). The participants had a mean age of 50.5 (range 30–63) years, 87% were women, and they could be classified as follows: 56% nurse managers, 21% para-medicine managers, 7% physicians, 11% administrative managers, and 5% other healthcare professionals. Figure 5 present how the healthcare managers self-rated their personality at Time1, in comparison to a norm group. With some variation, this sample constituted the cohort of managers analysed in the cross-sectional studies (I–III). The managers that declined to participate in the interventions ( $n = 387$ ) had a mean age of 55 years, and 76% were women.

The sample that served as the basis for analysis in the longitudinal study (IV) consisted of the 177 managers that completed the full two-year development programme (see Figure 4). During the interventions 25 managers dropped out, hence aggregated with the 23 early drop-outs, a total of 48 managers dropped out. For the 25 managers who dropped out during the intervention, the reasons for withdrawal were reported to be high work pressure (7), parental leave (2), resignation (2), unclear managerial responsibility (1), and familiarity with another participant (1). For half of the drop-outs (12), no information was available regarding reasons for withdrawal. Demographic data were available for 22 of the 25 managers who dropped out, which made it possible to test for differences compared with the managers who completed the full development programme. Chi-square and Mann-Whitney tests showed no significant differences in age, gender, tenure, or educational level between the drop-outs and the participants (analysis not shown). Table 2 presents the demographics of the managers who completed the programme.

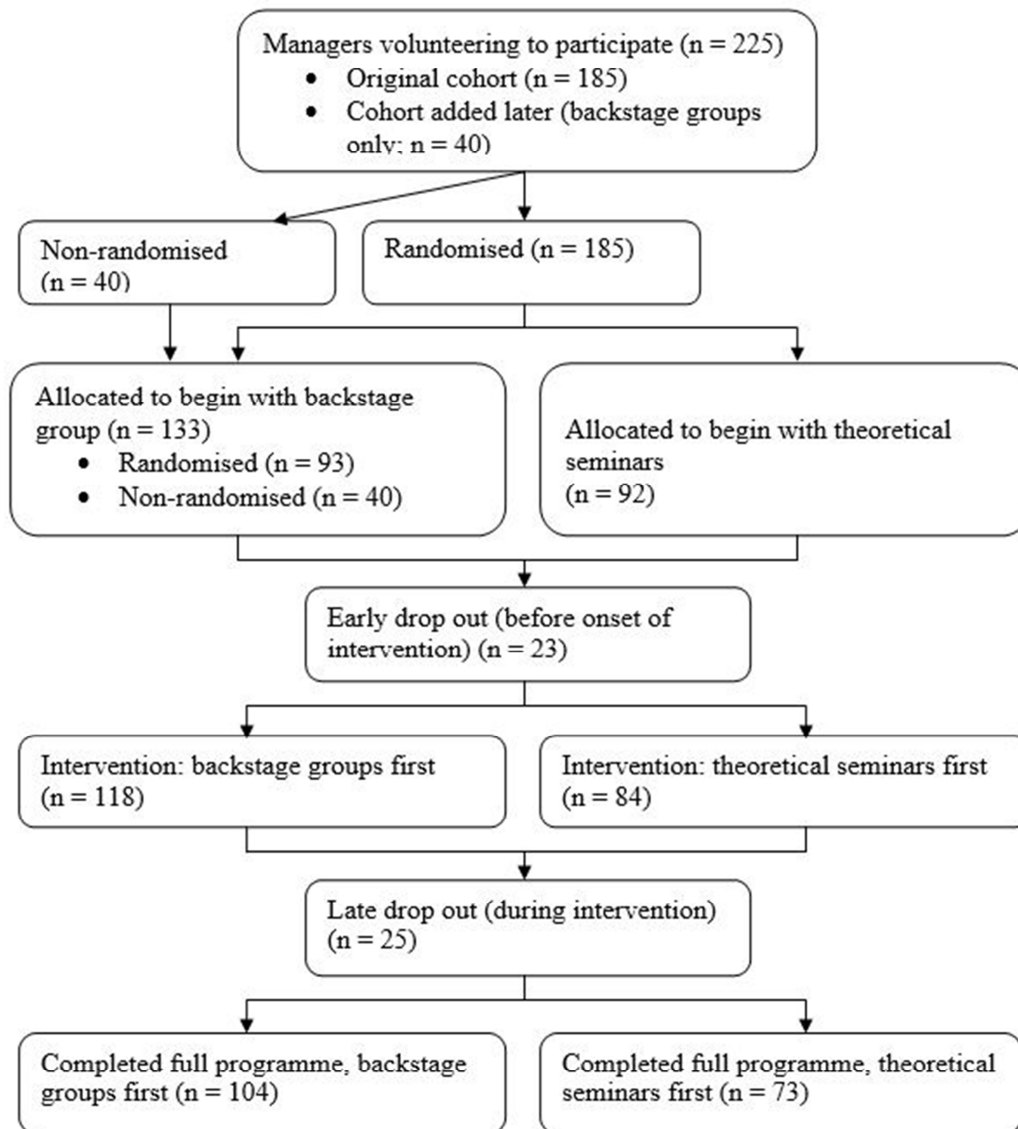


Figure 4. Overview of the flow of participating managers.

Table 2. Demographics for the participants according to intervention at Time1

	Theoretical seminars	Backstage groups
Participants		
Number	73	104
Sex, %		
Women	84.5	81.7
Men	14.1	16.3
Age, years	52	49.2
Tenure, years	6.92	7.85
Lowest educational level, %		
High school	14.1	13.5
Academic degree	74.6	72.1
Higher academic degree (Master's/PhD)	8.5	7.7

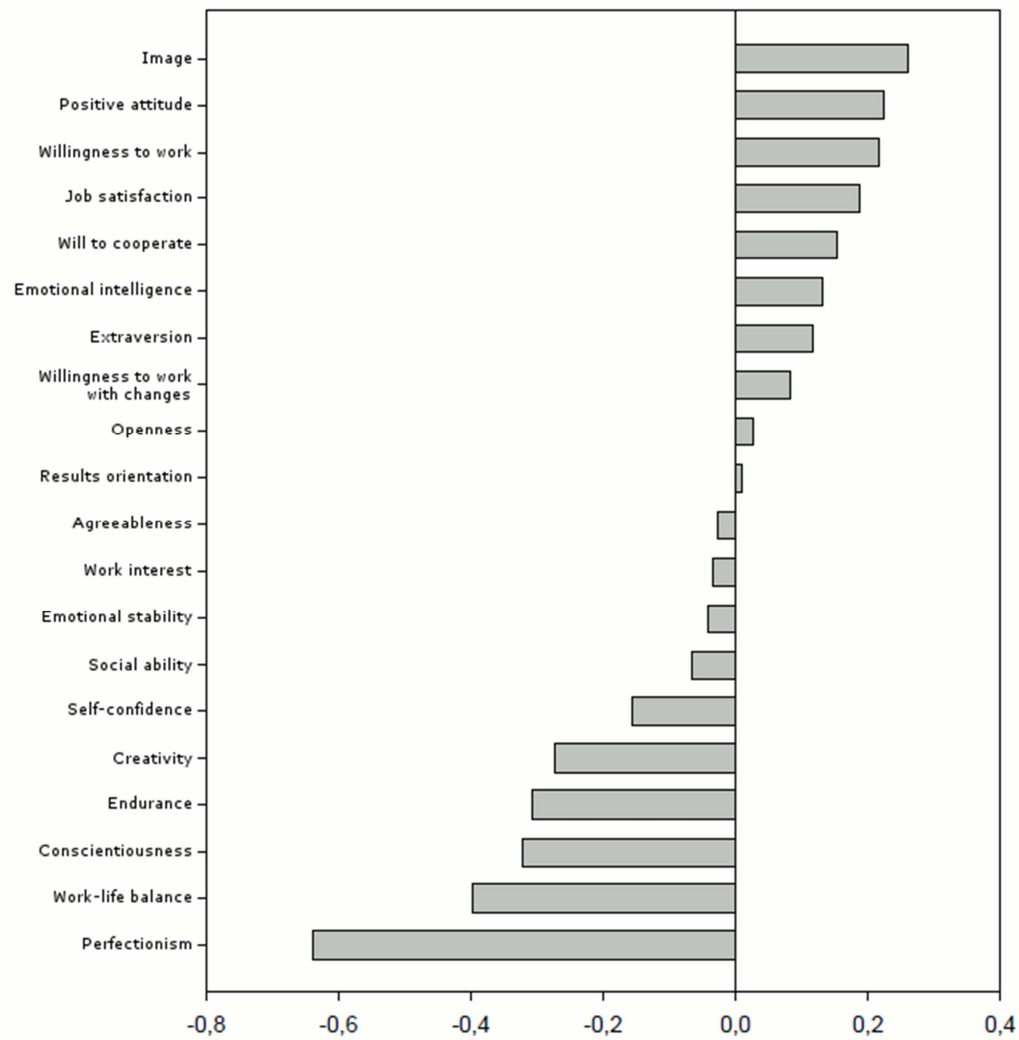


Figure 5. Mean values for managers at Time1, compared to a norm group (mean = 0). “Image” refers to a performance test in emotional intelligence.

#### *Subordinates, colleagues, and superiors*

Considering the managers’ subordinates and colleagues, the mean numbers responding at Time1 were 7.5 (range 1–15) and 2.5 (range 1–5), respectively. The response rates at Time1 were 90% (n = 182) for superiors, 68% (n = 366) for colleagues, 64% (n = 1276) for subordinates. According to the demographic data, the subordinates had a mean age of 47.5 years (range 20–70 years), and 87% were women. External raters who dropped out were replaced with new participants recruited by SLSO.

#### **5.1.5 Interventions**

The leadership interventions comprised backstage groups and theoretical seminars, and the most prominent difference between these was that the former had a practical orientation and the latter a more theoretical orientation. Both interventions were held over a period of ten months, and they are described in greater detail below.

### *Backstage groups*

In the present project, each backstage group consisted of seven to nine managers and a group leader. The group leaders were second-line managers recruited internally from SLSO, and they attended a 6-day course in the backstage model (see below) held by an external consultant which also provided coaching at four occasions during the intervention. The role of the group leader was to maintain the structure of a backstage group session with regard to time and content, and to facilitate the discussion between the managers. During the sessions, the managers discussed and reflected on issues and problems they had experienced in relation to their leadership role in everyday practice. Over a period of 10 months, the backstage groups met for 3 hours once a month, and, with the exception of the first introductory session, the structure of these meetings was the same on all occasions (Sandahl, Bäckstrand, & Edenius, 2012). Each session started with a collective discussion about what had happened since the previous session, and a problem was identified for consideration at the present session. The “problem owner” described the dilemma of interest in detail, to some extent with the assistance of an appointed “interviewer”. Next, a “reflective team” took over to reflect on the issue while the problem owner merely listened and did not participate actively in the discussion. After some corrections and complimentary information, a phase followed in which sub-groups formulated hypotheses about how the problem might be interpreted. These hypotheses were subsequently discussed with the problem owner, and some were rejected and others confirmed. Based on this discussion, the sub-groups suggested concrete ways for the problem owner to cope with the difficulty at hand, and the problem owner chose one or several of these solutions, or discovered some other alternative during the process. Finally, the participants reflected on lessons derived from the session and ended with a meta-discussion about learning. Based on all implemented backstage groups, the average presence over ten sessions was 80%.

### *Theoretical seminars*

The theoretical seminars were conducted on eight occasions during a period of 10 months, and a seminar group consisted of 40–60 members. Each seminar lasted 90 minutes and started with a 45-minute lecture based on one chapter in the book *Managers with Sense and Sensibility* (Sandahl et al., 2010). The themes of the eight seminars were as follows: (1) being a manager—an emotional challenge; (2) feelings in working life; (3) the meaning of work; (4) group dynamics; (5) leadership; (6) feelings and ethics; (7) being professional in the role of manager; (8) developing sense and sensibility in the role of manager. All participants received a copy of *Managers with Sense and Sensibility*, and each seminar was held by one of the authors of that book. The lecture at a seminar was followed by discussions for 20–30 minutes in small sub-groups, and the seminar ended with the sub-groups sharing a short summary and conclusions of their discussions with the entire group. Based on the theoretical seminars that were held between Time1 and Time2, the average presence over eight seminars was 67%.

### 5.1.6 Instruments

This thesis is based on quantitative data that were collected using three different instruments that, respectively, measured the managers' personality, the managers' leadership behaviour orientation, and the psychological and social factors at work. An overview of relevant characteristics of all of the variables used in the studies (I–IV) is presented in Table 3.

#### *Personality*

Personality was assessed by use of the Understanding Personal Potential (UPP) test, which measures the over-arching personality dimensions of the Big Five personality variables (extraversion, neuroticism, conscientiousness, openness to experience, and agreeableness), a number of more specific work-related traits (social ability, emotional intelligence, will to cooperate, endurance, positive attitude, self-confidence, creativity, and perfectionism), and adjustment to the current work situation by a number of work-related attitudes (willingness to work, work interest, job satisfaction, willingness to work with changes, result orientation, and work–life balance). The UPP test has been validated in three investigations conducted in Sweden (de Colli, 2010; Sjöberg, 2008, 2010), which reached criterion correlations of 0.56, 0.57, and 0.66, respectively. The managers rated their own personality at Time1 and the UPP test was used in Study III.

#### *Leadership behaviour orientation*

Leadership was measured based on the CPE leadership model (Arvonen, 2002). The CPE questionnaire is a 360-degree instrument and includes three subscales that measure orientation towards change, production, and employee, and it was developed and validated by using data on nearly 4,000 managers rated by 6,400 subordinates (Arvonen, 2002; Ekvall & Arvonen, 1991; Sverke, Arvonen, & Lindell, 1999). Here, “360-degree” refers to the full circle of rater sources: superiors, organizationally positioned above the manager; colleagues, positioned at the same hierarchical level as the focal manager; subordinates, positioned at a lower organizational level than the focal manager. On three occasions (Time1, Time2, and Time3), all rater sources were asked to appraise the leadership behaviour orientation of “their” participating manager. The CPE questionnaire was used in all of the present studies (I–IV).

#### *Psychosocial work environment and health*

The Webb-QPS (Questionnaire of Psychological and Social Factors at Work) (Hasson, Gustavsson, & Sandahl, 2008), is a short web-based version of QPS Nordic (Dallner et al., 2000), and has been validated for Swedish employees. It measures aspects of the psychosocial work environment, as well as psychological health. In all three data collections (Time1, Time2, and Time3), the managers and their subordinates completed the Webb-QPS questionnaire, which for these respondents was included in the same e-mail as the CPE instrument. The variables used in the present investigations are outlined in Table 3. Data from the Webb-QPS were used in Studies I, II, and IV.

Table 3. Overview of characteristics of all study variables included

Instrument, variables	No of items	Scale range	Example item	Reliability (+ = single-item included in study)			
				Study I Managers	Study II Sub- ordinates	Study III All rater sources	Study IV All rater sources
Rater source(s) in study							
<b>Webb-QPS</b>							
<i>Demographics</i>							
Sex	1			+			+
Age	1	Years		+	+		+
Tenure	1	Years		+	+		+
Educational level	1	1 – 4		+			+
<i>Distress</i>							
Depression	6	1 – 4	To what extent have you the past two weeks felt sad or down		.87		
Exhaustion	5	1 – 4	After work I often feel tired and worn out	.77	.78		
Disengagement	5	1 – 4	As time goes by, you lose a deep interest in your work	.69	.76		
Sleep disturbances	5	1 – 4	Do you usually have difficulties in falling asleep	.69	.74		
Self-rated ill-health	1	1 – 5	How is your overall health condition		+		
Satisfaction with work quality	1	1 – 5	Are you satisfied with the quality of your work	+			
Satisfaction with work quantity	1	1 – 5	Are you satisfied with the quantity of your work	+			
Satisfaction with problem-solving ability	1	1 – 5	Are you satisfied with your ability to solve problems at work	+			

<i>Work environment</i>							
Job Demands	4	1 – 5	Do you have to work in high pace	.74	.74		
Decision authority	7	1 – 5	Are your work tasks clearly defined	.67	.75		
Skill discretion	3	1 – 5	Does your work include positive challenges	.64	.76		
<b>Change Production Employee</b>							
<i>Leadership behaviour orientation</i>							
Change	8	1 – 6	Consistently pushes for development	.86	.93 (5 <sup>a</sup> )	.93	.92 (5 <sup>a</sup> )
Production	8	1 – 6	Gives clear instructions	.88	.87 (4 <sup>a</sup> )	.93	.86 (4 <sup>a</sup> )
Employee	8	1 – 6	Shows respect for other people	.75	.92 (4 <sup>a</sup> )	.93	.90 (4 <sup>a</sup> )
<b>Understanding Personal Potential</b>							
<i>Big Five personality variables</i>							
Extraversion	10	1 – 5	In a group, I am the person who takes responsibility			.75	
Emotional stability	8	1 – 5	I do not make mistakes, even if there is a mad rush to complete a task			.68	
Conscientiousness	9	1 – 5	Order is the basis for my work			.62	
Openness to experience	9	1 – 5	I prefer concrete tasks rather than having to familiarize myself with abstract ideas			.67	
Agreeableness	8	1 – 5	I have many really good friends			.54	
<i>Work-related personality variables</i>							
Social ability	8	1 – 5	I can easily make contact with new acquaintances			.65	
Emotional intelligence	18	1 – 5	I can avoid doing reckless things when I am upset			.80	
Will to cooperate	10	1 – 5	I have been unfairly treated at work			.69	
Endurance	8	1 – 5	When I fail, I try again			.74	
Positive attitude	10	1 – 5	I have never regretted choosing the profession I am in			.76	

Self-confidence	9	1 – 5	I see difficulties as challenges	.73
Creativity	8	1 – 5	I often find a key to solving problems in the most unexpected places	.68
Perfectionism	9	1 – 5	If you have decided to do something, you should do it perfectly	.66
<hr/>				
<i>Work-related attitudes</i>				
Willingness to work	7	1 – 5	When I am at work, time passes at a snail's pace	.77
Work interest	6	1 – 5	I am often given work tasks that strongly interest me	.63
Job satisfaction	3	1 – 5	I feel satisfied with the work I do	.77
Willingness to work with changes	8	1 – 5	In most workplaces, I think better results can be achieved, if one is willing to participate in change	.61
Result orientation	13	1 – 5	I definitely want my work to provide significant results	.69
Work-life balance	9	1 – 5	Things that I want to do at home tend not to get done because of the demands of my job	.91

<sup>a</sup> = reliability for short version of the scales in study II and IV.



## 5.2 SPECIFIC STUDY METHODS

### 5.2.1 Study I – Healthcare Managers' Leadership Profiles in Relation to Perceptions of Work Stressors and Stress

#### *Study design and participants*

The data used in this cross-sectional study was collected at Time1 and consisted of managers' responses to the CPE and the Webb-QPS questionnaires. The sample consisted of 188 managers for whom complete data were available (i.e., they had responded to at least 6 of 8 items in each subscale of the CPE questionnaire). Eighty-seven per cent of the participating managers were women, and the mean age in the group was 51 years (range 30–63 years). The managers had backgrounds in the following professions: nurses (56%), paramedics (21%), administrators (11%), physicians (7%), and other categories (5%).

#### *Statistical analyses*

Hierarchical agglomerative cluster analysis and K-means relocations cluster analysis were performed to explore possible presence of leadership profiles reflected in combinations of behaviour orientations toward change, production, and employees. The aim of a cluster analysis is to group cases based on two concomitant principles: (a) ratings in the same group should be as similar as possible, and (b) ratings in different groups should be as dissimilar as possible. Hierarchical cluster analysis entails definitive allocation of cases to particular clusters, whereas K-means relocation cluster analysis is an iterative process that allows relocation of cases to new clusters to potentially improve the location of the individual cases.

The mentioned approaches were applied in three steps in the present project. First, potential cluster solutions in the hierarchical cluster analysis were identified by inspection of the agglomeration schedule and dendrogram. Ward's method with standardized variables and squared Euclidian distances were used. Second, two selected cluster solutions were further tested in K-means relocation cluster analyses, and cross-tabulations were employed to examine the reliability of each cluster solution. Third, one-way analysis of variance (ANOVA) was performed to determine how well the clusters were discriminated in the cluster variables (i.e., the three leadership behaviour orientations).

The cluster solution that provided the most distinct leadership profiles served as independent variable in subsequent analyses of potential differences related to work stressors and stress. For this purpose, one-way ANOVA with post-hoc Bonferroni pairwise comparisons was performed. The work stressor outcomes were job demands and job control (the latter divided into decision authority and skill discretion), and the work stress outcomes were exhaustion, disengagement, sleep disturbances, satisfaction with work quantity, satisfaction with work quality, and satisfaction with problem-solving ability.

### **5.2.2 Study II – The mediating role of demand and control in the relationship between leadership behaviour and employee distress: A cross-sectional study**

#### *Study design and participants*

This study used a cross-sectional design with data from Time1 in the form of responses of subordinates ( $n = 1249$ ) to the CPE and Webb-QPS questionnaires. The subordinates (87% women) had a mean age of 47.6 years (range 20–70 years) and reported having the following professions: nurses (36%), physical/occupational therapists (16%), administrative personnel (14%), health-related (22%) or managerial (3%) positions, or other categories (7%). Two percent did not specify a professional position.

#### *Statistical analyses*

Multilevel regression analysis was conducted to investigate the mediating effect of job demands and control on the relationship between leadership behaviour orientation (change, production, and employee) and distress. This method was chosen due to the hierarchical structure of the data, in which subordinates were nested within managers and thus it could be expected that the ratings made by subordinates with the same manager would be more similar compared to the ratings made by the total sample of subordinates. Therefore, the ratings made by individual subordinates were not independent of each other, which violated the statistical assumption of independent and identically distributed errors in regression analyses (Maas & Hox, 2004). This dependence was addressed by performing multilevel regression analysis. In the first step of the multilevel assessments, the leadership behaviour orientations were used as predictors of the distress outcome variables. In the second step, the proposed mediators job demands and control were entered into the equation.

### **5.2.3 Study III – Leader personality and 360-degree assessments of leader behaviour**

#### *Study design and participants*

Cross-sectional data from Time1 were used in this study. Managers responded to the UPP test and the CPE questionnaire ( $n = 190$ ). The mean age of the managers was 51 years (range 30–64 years), and 87% were women. The CPE instrument was also completed by the managers' superiors, colleagues, and subordinates; nearly all the managers were assessed by one superior ( $n = 182$ ), and by a mean of 2.5 colleagues (range 1–5), and 7.5 subordinates (range 1–15).

#### *Statistical analyses*

Hierarchical multivariate regression analysis was performed to investigate the predictive power of the managers' self-rated personality in relation to different rater sources' assessments of leadership behaviour orientation. For each rater source, the behaviour orientations (change, production, and employee) were regressed separately on the personality variables. The personality variables were entered as predictors in three blocks to examine the predictive power of different groups of personality variables. The Big Five variables were

entered in the first block, a number of work-related narrow personality variables were added in the second block, and various work-related attitudes were included in the third block.

#### **5.2.4 Study IV – A randomised study of interventions for healthcare managers**

##### *Study design and participants*

This longitudinal study used data based on responses to the CPE questionnaire from all rater sources at all three time points (Time1, Time2, and Time3). The sample consisted of the 177 managers who completed the development programme, and also the superiors, colleagues, and subordinates of these managers. The 177 managers represented 30% of all healthcare managers in the organization; 83% of them were women, and the mean age was 50.5 years (range 33–63 years). The subordinates ( $n = 1,707$ ; comprising unique respondents, including new subordinates replacing drop-outs) had a mean age of 47.4 years (range 20–70 years), and 84% were women.

##### *Statistical analyses*

To investigate the interventions' potential effect on ratings of leadership orientation between Time1 and Time2, repeated measures ANOVA was conducted for all rater sources. As colleagues and subordinates, respectively, were group wise related to the same healthcare manager, a variable indicating this relationship was entered as a between subject variable in the ANOVA, with Bonferroni post hoc analysis. This enabled a check of the pattern of a potential significant interaction between effect of time by managerial affiliation. Further, to examine the potential difference in effect between backstage groups and theoretical seminars (time by group effects for intervention type), repeated measures ANOVA (for managers and superiors) and multilevel regression analysis (for colleagues and subordinates) were performed. Besides taking into account the dependency of data ratings related to the same manager, another advantage multilevel analysis offers, is that it uses all available information at each time-point as it does not require listwise deletion (Hox, 2002). In the repeated measures ANOVA, type of intervention was inserted as a between subject variable. In the multilevel regression analysis, after controlling for initial ratings at Time1 by entering Time1-ratings as a predictor in Step 1, intervention type was entered as a predictor in Step 2.

To investigate the effect of a combination of the interventions between Time1 and Time3, repeated measures ANOVA was performed for all rater sources, respectively. Again, for subordinates and colleagues, managerial affiliation was inserted as a between subject variable and Bonferroni post hoc analysis was conducted, in order to enable a check of pattern in case of a significant interaction effect.

### **5.3 ETHICAL CONSIDERATIONS**

All participants received written information about the study before their participation and they were informed that all participation was voluntary and that confidentiality and anonymity was guaranteed. Informed consent was obtained in the beginning of the web-based questionnaire. The project were approved by the Regional Ethical Review Board (reg. no 2010/979-31/5).



## 6 KEY FINDINGS

### 6.1 STUDY I

#### *Aim*

The aim of this study was to identify the leadership behaviour profiles that were represented among healthcare managers, and to explore how these profiles differed with regard to perception of work stress and the work stressors job demands and control.

#### *Key findings*

Based on the previously outlined series of statistical analyses including hierarchical agglomerative cluster analysis and K-means relocation cluster analysis, a robust four-cluster K-means solution, with specified centroids (as recommended by Milligan [1980]) was identified. The four clusters were composed of the managers' self-rated level of leadership behaviour as distinct combinations of change, production, and employee orientation. Cluster 1 was characterized by low self-ratings in all behaviour orientations, cluster 2 was distinguished by high self-ratings in all behaviour orientations, and clusters 3 and 4 exhibited mixed profiles. The means of each behaviour orientation were investigated using ANOVA to confirm that they were satisfactorily discriminated by the four clusters. Across the clusters, all mean differences within a behaviour orientation were significant at the .01 level (Figure 6).

The four leadership profiles that emerged from the final cluster solution corresponded well with previously identified profiles (Ekvall & Arvonen, 1994; Sellgren et al., 2006; Sellgren et al., 2008). Therefore, we designated the four profiles in accordance with terms used in previous research. These profiles are described below. No significant differences in demographic variables (age, gender, and tenure) were found between the clusters.

Cluster 1: The Vague Leader profile ( $n = 50$ ) was characterized by having the lowest means in all three leadership orientations,  $< 1$  Standard deviation (SD) below the total cluster mean for each variable.

Cluster 2: The "Super" Leader profile ( $n = 36$ ) was distinguished by the highest means in all three leadership orientations,  $> 1$  SD above the total cluster mean for each variable.

Cluster 3: The Middle-of-the-Roader profile ( $n = 60$ ) had relatively uniform means but also showed production orientation that was 1 SD higher than noted for the Gardener and the Vague Leader profiles.

Cluster 4: The Gardener profile ( $n = 42$ ) had high means for the change and employee orientations, and a substantially lower mean for the production orientation.

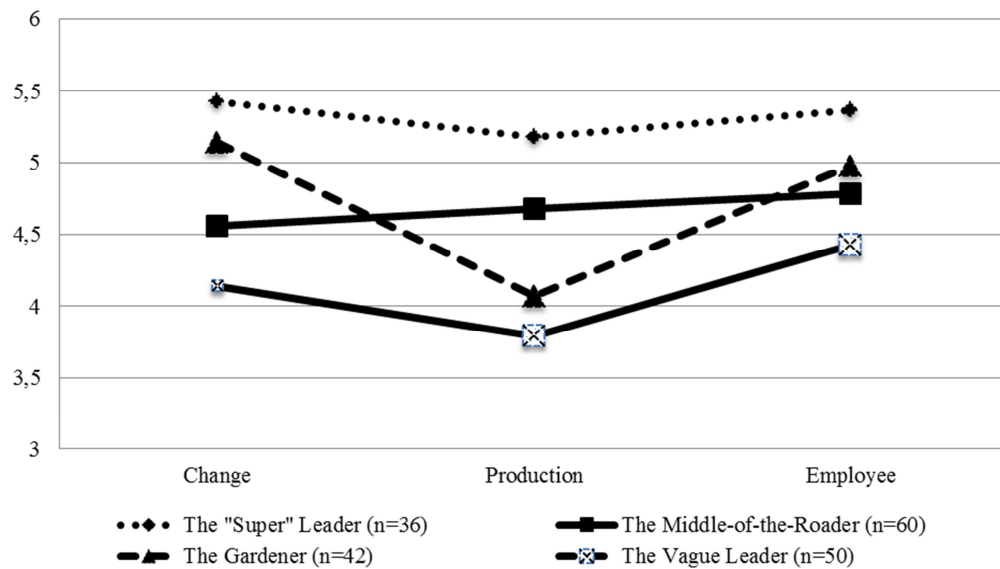


Figure 6. Means in change, production, and employee orientation in the four leadership profiles. All mean differences within an orientation are significant at the .01 level.

The leadership profiles further served as independent variable in analyses of the relationship between the profiles and work stressor outcomes (job demands, decision authority, and skill discretion) and work stress outcomes (exhaustion, disengagement, sleep disturbances, and satisfaction with work quality, work quantity, and problem-solving ability). One-way ANOVAs with Bonferroni post-hoc analyses were performed of the mean differences between the profiles. The results of the ANOVAs were statistically significant for seven of the nine outcomes. The post-hoc analyses demonstrated a clear pattern: in comparison with the other profiles, the Vague Leader profile consistently rated work stressors and work stress outcomes more negatively compared to at least one of the other profiles (Figure 7-9).

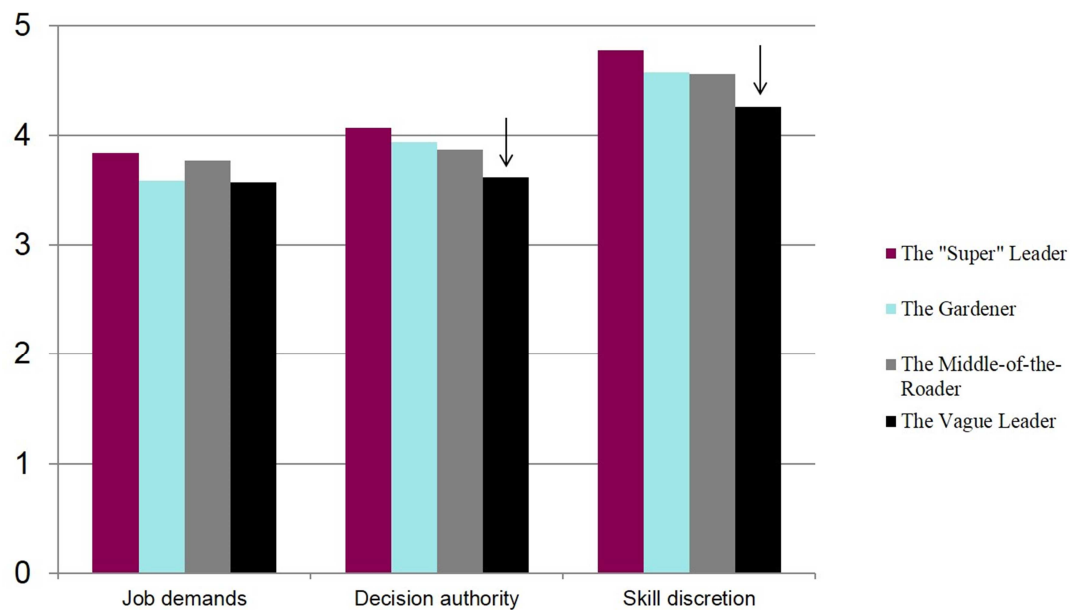


Figure 7. Effect of leadership profile belonging on relation to work stressors. Arrow indicates significant post-hoc analysis between the Vague Leader profile and at least one of the other profiles.

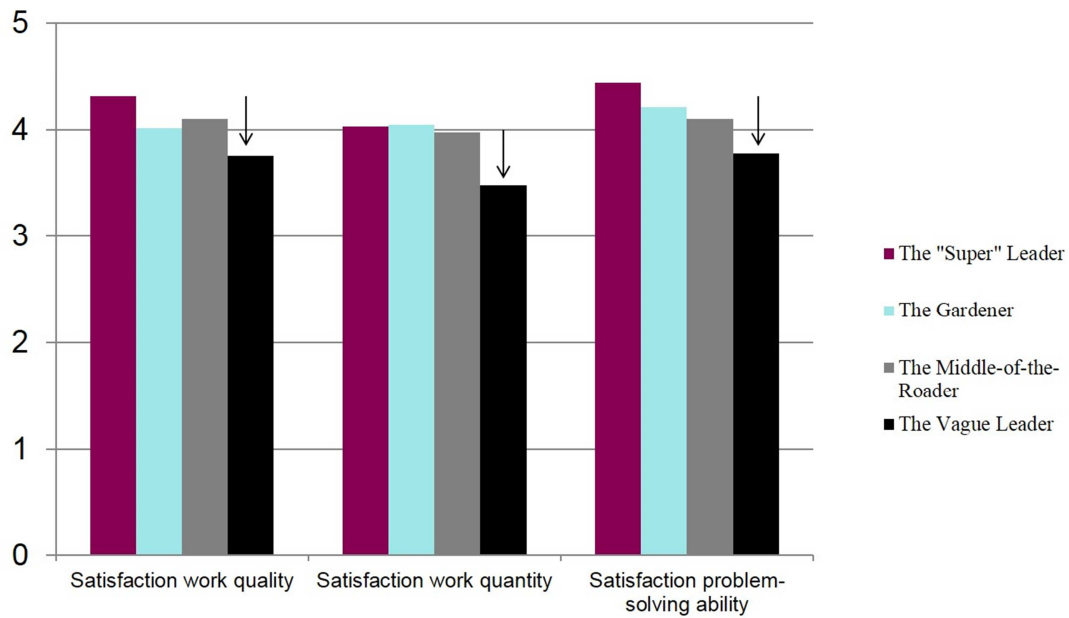


Figure 8. Effect of leadership profile belonging on relation to work stress outcomes. Arrow indicates significant post-hoc analysis between the Vague Leader profile and at least one of the other profiles.

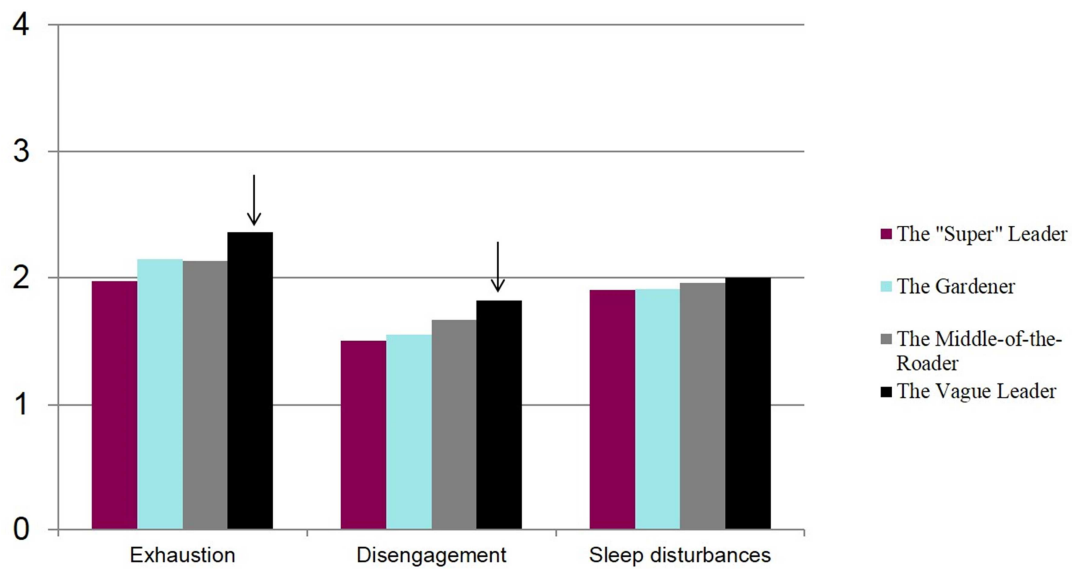


Figure 9. Effect of leadership profile belonging on relation to work stress outcomes. Arrow indicates significant post-hoc analysis between the Vague Leader profile and at least one of the other profiles.

## 6.2 STUDY II

### *Aim*

The aim of this study was to examine possible mediating effects of the work environment factors job demands and control on the relationship between leadership behaviour orientation and employee distress (Figure 10).

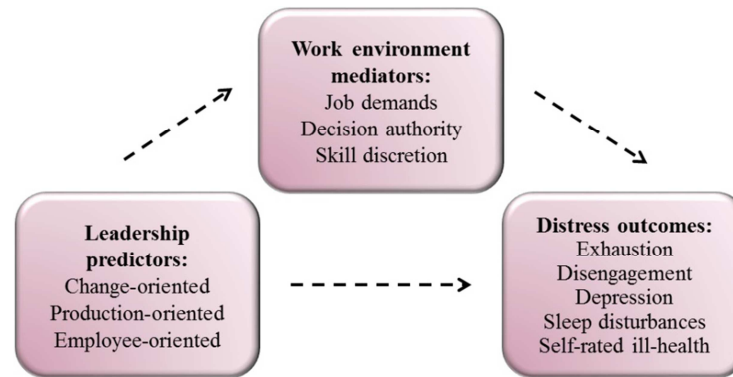


Figure 10. The tested model of predictors, mediators, and outcomes.

### *Key findings*

In Step 1 of the multilevel analysis, each of the predictors (i.e., leadership behaviour orientations) were found to have a negative relationship with all the distress outcomes (disengagement, exhaustion, depression, sleep disturbances, and self-rated ill-health) after controlling for the group effect (the nested structure of the data) and for demographic predictors (age and tenure). Hence one of the key findings of this study was that the ratings of the subordinates indicated the following: the higher the level of each separate leadership behaviour orientation, the lower was the level of distress.

In Step 2, when the mediators job demands and job control (the latter subdivided into decision authority and skill discretion) were entered in the model, the unstandardized regression coefficients (B) for leadership were reduced: in eight of 15 regressions, the mediators fully explained the relationships between the leadership behaviour orientations and the distress outcomes. This was particularly pronounced with regard to change-oriented behaviour, for which four out of five relationships were fully mediated. In the rest of the regressions, the mediators partly accounted for the relationships between behaviour orientations and the distress outcomes. Thus, in the eyes of the subordinates, job demands and control seemed to explain a significant part of how leadership was related to distress, which was the most important observation in Study II.

A third essential finding was that the meaningfulness of work and the possibility to practice one's skills appeared to play an important role in the interplay between perception of leadership and disengagement. In each leadership behaviour orientation, the regression coefficient for the mediator skill discretion was substantially higher than for any of the other relationships.



### 6.3 STUDY III

#### *Aim*

The aim of Study III was to investigate how well the managers' self-rated personality would predict ratings of leadership made by the managers themselves and by their superiors, colleagues, and subordinates, and whether the addition of narrow dimensions would enhance the predictive value.

#### *Key findings*

As previously described, the personality variables were entered in the hierarchical multiple regression analysis in three blocks: the Big Five variables were in the first block; the eight narrow work-related personality variables were added to the Big Five in the second block; six work-related attitudes were added to the other variables in the third block. The purpose of this procedure was to investigate the predictability of different compositions of personality variables in the CPE orientation ratings. The results showed that the Big Five variables predicted leadership behaviour ratings from all rater sources with regard to change and employee orientation (adjusted  $R^2$  0.098–0.274). Considering production orientation, personality predicted ratings from the managers and their subordinates (adjusted  $R^2$  0.064–0.263). Hence the results were statistically significant for 10 out of 12 analyses. The variance explained in the CPE ratings was substantially higher for the managers themselves than for the other rater sources.

In the investigation of block 2, the predictability of personality increased in seven of the 12 analyses. Interestingly, this increase was noted primarily in the behaviour ratings made by colleagues and subordinates. For the managers, adding narrow variables did not explain any additional variance in any of the CPE orientations; for superiors, only one model improved, namely, that concerning employee-oriented behaviour. One of the key findings of this study was that, when narrow work-related personality variables were included, the managers' self-rated personality predicted subordinates' ratings of CPE orientation to the same extent as it predicted the managers' own CPE ratings (adjusted  $R^2$  ranging from 0.133 to 0.286). Moreover, the colleagues' CPE ratings were almost equally well predicted (adjusted  $R^2$  0.089–0.216).

The third block yielded few improvements, although the leadership behaviour orientation *change* was better predicted by the managers' personality rated by all sources except the superiors. Thus a second noteworthy observation in this study was that the relationship between personality and leadership behaviour orientations depended largely on who had rated the leadership behaviours.

The difference between rater sources was also noted for the specific personality variables that significantly predicted ratings in the leadership behaviour orientations. The managers' self-ratings in *openness to experience* (a Big Five variable) and *positive attitude* (a narrow variable) consistently predicted subordinates' ratings. The managers' self-ratings in *emotional intelligence* (a narrow variable) predicted the ratings made by superiors. For managers and their colleagues, no single personality variable predicted all behaviour orientations. For all external rater sources, the personality variable *agreeableness* predicted

employee-oriented behaviour. *Openness to experience* predicted change-oriented behaviour in the majority of the rater sources. The personality variables that predicted production-oriented behaviour varied depending on rater source.

## **6.4 STUDY IV**

### *Aim*

In this study, the aim was to compare the effect of two different leader development interventions on leadership and to evaluate the combined effect of the interventions after two years from the viewpoints of the participating managers as well as external rater sources.

### *Key findings*

The results of ANOVAs (conducted on managers' and superiors' ratings) and multilevel analyses (performed on colleagues' and subordinates' ratings) revealed few differences between the backstage groups and the theoretical seminars with respect to their impact on improvement of leadership. Thus one key conclusion was that the two interventions had similar effects on the ratings of leadership.

Considering the effects from Time1 to Time2 (0 and 12 months, respectively) and from Time1 to Time3 (0 and 24 months, respectively), there was poor agreement between the rater sources. The participating managers reported improvement in all leadership behaviour orientations at both Time2 and Time3. For the external rater sources (superiors, colleagues, and subordinates), no change was noted for two of the leadership behaviour orientations (change and production) at Time2 or Time3, whereas lower ratings of employee-oriented behaviour was indicated by the superiors and subordinates at Time2 and by the subordinates at Time3. Thus neither of the interventions, considered separately or combined, led to improvement in external ratings of leadership behaviour, and one of the behavioural orientations was rated lower by two of the external sources.

## 7 DISCUSSION

The overall aim of this thesis has been to gain a better understanding of healthcare managers' leadership by investigating it in relation to work environment, distress, personality, and receptiveness to leadership development interventions. An additional aim was to evaluate the mentioned aspects of leadership from the different viewpoints of the healthcare managers themselves and their superiors, colleagues, and subordinates. Studies I and II focused on work environment and distress from the standpoints of the managers and the subordinates, respectively, and Studies III and IV addressed personality and the evaluation of a leadership development intervention from the perspectives of all categories of raters.

The discussion below will highlight and synthesize the most important findings of the four studies in relation to the healthcare service context. Five major results are considered: (1) the observation that there were significantly more negative perceptions of work stressors and stress in one particular leadership profile (the Vague Leader) than in any of the other profiles (Study I); (2) the indicated negative relationship between managers' production-orientation and subordinates' distress (Study II); (3) the finding that the relationship between leadership and subordinate distress was mediated by job demands and control, and the role of the mediator skill discretion (Study II); (4) the lessons that could be learned from the evaluation of the leadership interventions (Study IV); (5) the pattern that was discerned in consistencies and inconsistencies in perceptions of leadership from different viewpoints (Studies III and IV).

### 7.1 RISK FOR STRESS IN THE VAGUE LEADER PROFILE

Twenty-seven per cent of the managers that belonged to the Vague Leader profile rated their leadership lower than the average healthcare manager, which is somewhat higher than the figure of 17% previously noted in healthcare by Sellgren and colleagues (2006). The person-oriented statistical approach used in the present study, offers the possibility to draw other types of conclusions than in a variable approach, and hence the mentioned finding is of particular interest for translating research into practice. The differences between the conclusions that can be derived from a variable approach and from a person-oriented approach can be exemplified by considering the well-known body mass index (BMI), which entails calculating body mass by dividing body weight by body height squared. The BMI of a group of people gives some indication of the average health status in the group, but it gives little information about each member of the group, because these individuals will differ regarding how well they are actually represented by the mean value for the group. This represents the variable approach. In contrast, the person-oriented approach is used to identify the attributes that characterize a specific group of individuals. In the BMI example, this would be equivalent to grouping people based on a certain BMI, specific exercise habits, and level of blood lipids, which would give more specific information about the health status of each individual in this particular group and thereby enable targeted health interventions.

The specific information of healthcare managers' in the Vague Leader profile was that they rated their own leadership significantly lower than the managers in the other leadership

profiles (the “Super” Leader, the Gardener, and the Middle-of-the-Road) rated themselves. Furthermore, the Vague Leader managers perceived having less control and more stress. These findings suggest that leadership profile can explain variation in the way that healthcare managers interpret and react to their work environment. This conclusion supports previous studies relating leadership to subjective stress outcomes (Ryska, 2002; Zopiatis & Constanti, 2010), although the present results are the first to relate leadership profile to managers’ subjective appraisal of aspects of the work environment.

Berntson, Wallin and Härenstam (2012) recently investigated stress and performance by clustering various municipal organizations into eight groups with different work environment characteristics. These authors reported that female-dominated and male-dominated organizations (i.e., regarding gender composition) differed in such a way that more beneficial working conditions were experienced in the latter. The female-dominated organizations were over-represented in a cluster characterized by lack of managerial support, lack of resources, and strong conflicts between logics (work responsibilities), but, on a more positive note, they also had a low level of problems with staff. In contrast, one of the clusters in which male-dominated organizations were over-represented was defined by low levels of demands and high levels of resources, and also exhibited the lowest level of conflicts between logics compared to all other clusters. Even if research findings are not entirely translatable across public service organizations, some of the cited results do appear to apply to healthcare services as well, such as the conflict of logics (Dellve & Wikström, 2006). Moreover, healthcare managers spend less than 1% of their time at work alone with a superior (Arman et al., 2009) and 22% of the first-line nurse managers reported low level of superior support in a study by Johansson et al. (2013), which are in line with the findings of the cluster of female-dominated organizations.

The results of this thesis expand the mentioned findings by Berntson and colleagues by suggesting that leadership profile is one of the individual factors that can explain variations in perceptions of work environment and stress *within* a female-dominated organization. Of further interest, the authors of the cited study found that men and women within the same organization (irrespective of whether female- or male-dominated) did not differ regarding associations with the outcomes (e.g., health). Also in the present study, after grouping managers into leadership profiles, it was found that men and women were equally distributed across the profiles and thus sex was not related to stress outcomes. However, Björklund et al. (2013) investigated public service organizations and noted that female managers at a lower managerial level experienced significantly more work-related strain (high job demands and low control) and stress compared to male managers at a higher managerial level. Together these studies reduce the straightforwardness of the interpretation of the relationship between sex and stress, but they nonetheless suggest that one of the most pressing managerial situations in public service is to simultaneously face all of the following: (a) working in a female-dominated organization, (b) working at a low managerial level (first line), (c) being a woman, and (d) belonging to the Vague Leader profile.

A question that arises is whether the Vague Leader profile is over-represented in female-dominated organizations, and if so, for what reason. Notably, earlier research showed that the Vague Leader profile was under-represented in care organizations and over-represented in the education (female-dominated) and industry (male-dominated) sectors (Ekvall & Arvonen,

1994). Inasmuch as the mentioned research was conducted almost 20 years ago, it is difficult to judge whether the results are generalizable to contemporary healthcare organizations. Considering alternative explanations for a potentially higher prevalence of the Vague Leader profile, it is possible that a higher proportion of the managers today think less of themselves as leaders, or that a proportion of them think more of themselves as leaders and therefore raises the average. For the practitioners, identification of the Vague Leader profile and its association with more negative ratings of both work environment and stress raised the questions of whether the managers in this profile are at risk of stress-related illness, and what can be done to support these managers. Translated into the terminology of the JDC model (Karasek, 1979), these queries can be expressed as considering whether these managers should be categorized into the “active” job square or the high-strain square (see Figure 1), and how their sense of control can be enhanced (the level of job demands in this profile did not deviate from levels in the other profiles). There are no clear answers to these issues, although the results do suggest an increased risk for a high-strain work situation and the Vague Leader profile managers might benefit from receiving special attention within the organization.

Importantly, previous research has also shown that healthcare managers hesitate to signal their stress to their superiors (Tengelin, Kihlman, Eklöf, & Dellve, 2011). The managers interviewed in the cited study were worried that telling superiors about their feelings of stress would be perceived as a sign of weakness, which would impede future chances of promotion or being appointed interesting areas of responsibility. The managers were also hesitant to talk to colleagues about their own stress, because they too might be in a position requiring strategic decisions in the future. It is well established in the literature that social support from a manager and colleagues represents a resource associated with less strain (Viswesvaran, Sanchez, & Fisher, 1999). Hence, although the data analysed in the present studies did not include level of superior support, based on previous evaluations (Johansson et al., 2013) it is reasonable to assume that the potential needs of the Vague Leader profile managers include both social support and a higher level of control. However, additional studies are needed to create a complete picture of how to support this group of managers.

## **7.2 THE UPGRADE OF MANAGEMENT**

In Study II it was found that production-oriented leadership was negatively related to subordinates' distress (i.e., the higher the level of perceived leadership, the lower the level of distress), and this contradicts a widely cited meta-analysis by Cummings et al. (2010) in which task-focused leadership styles were noted to be associated with lower nurse job satisfaction and a higher level of burnout. One explanation to this thesis' contrasting finding, is that task-focused leadership as defined by Cummings and colleagues is distinct from that of production-oriented leadership applied in the present thesis, exemplified by the cited study including measurements of absence of emotional intelligence and of focus on mistakes. The results of this thesis suggest that production orientation makes a unique and positive contribution to employee well-being according to the mode of measurement used, including behaviours such as making a point of following rules and principles, following and overseeing work closely, planning carefully, and giving clear instructions. This result is intriguing in light of an earlier investigation using the same measurement of production-oriented leadership (Sellgren et al., 2006), showing that healthcare workers preferred more

production-oriented leadership compared to what their managers believed the healthcare workers wanted, and compared to what the healthcare workers felt that they received.

Production-oriented leadership overlaps with behaviours traditionally termed as management (Yukl, 2012). Management is normally described as involving routine work required to maintain stability, such as planning and structuring. Leadership, on the other hand, is often conceptualized as visionary, relational, and motivational, and has reached a normative quality in society (Sveningsson & Alvesson, 2010). This implies that, in contrast to management, leadership is something to strive for, as illustrated by the famous saying that managers do the things right, and leaders do the right things (Bennis & Nanus, 1985). This sentence signifies that management is related to acting in a robot-like manner, strictly following stipulated routines, whereas leadership entails ignoring some of those routines and engaging in more important behaviours. Also healthcare managers tend to embrace this view by presuming that, compared to the administrative logic, the strategic and the personnel logics are more strongly associated with leadership (Dellve & Wikström, 2006). However, the present results indicate that more management is related to less subordinate distress and a better work environment, which suggest that also management is relational. This interpretation concurs with research showing that the influence of leadership can be recognized as being embedded in daily managerial tasks (Larsson & Lundholm, 2010), which challenges the popular distinction between management and leadership. Thus, it may be that management and leadership are intertwined, rather than leadership being one of the manager's roles.

How can an entanglement between managerial and leadership behaviour be understood? One way of understanding how management and leadership might be interwoven is to regard every action a manager takes as potentially interpretable in leadership terms. This means that even the way a manager performs purely administrative tasks will be implicitly rated by subordinates on a subjective leadership scale. According to this reasoning, a person holding a managerial position cannot engage in leadership before lunch and then switch to practising management after lunch; in other words, a manager can lead (e.g., perform change- or employee-oriented behaviour) without managing (perform production-oriented behaviour), but cannot engage in management without also leading. Based on this view, it is interesting to reflect on the potential significance of a strong professional identity for a healthcare worker who takes a managerial position. Earlier research has suggested that physician managers themselves contribute to making their role as managers weak in comparison with their role as medical professionals (von Knorring, de Rijk, & Alexanderson, 2010), and a logical question is how does this affect the subordinates' perceptions of leadership and the work environment. Further studies are needed to address this issue.

Considering the leadership profiles identified in Study I, significantly higher self-ratings of production-orientation were noted for the "Super" Leader and the Middle-of-the-Roader compared to the Vague Leader and the Gardener. In a healthcare setting, a manager providing substantial production-oriented leadership might offer a beneficial level of predictability in an ever-changing setting. However, the relationship between such leadership and healthcare subordinates' well-being remains inconclusive, as indicated by research results on this subject pointing in slightly different directions (Cummings et al., 2010; Duxbury, Armstrong, Drew, & Henly, 1984; Fjell et al., 2007). The findings of Study II support an association between the two variables, and in future assessments it would be interesting to advance this line of

investigation by exploring a potential relationship between leadership profiles and subordinate distress outcomes, with particular focus on differences in the degree of production-oriented leadership.

### **7.3 ADVANCING THE UNDERSTANDING OF THE RELATIONSHIP BETWEEN LEADERSHIP AND SUBORDINATES' DISTRESS**

The aim of Study II was to gain a deeper understanding of the processes involved in the well-established relationship between leadership and subordinates' distress (Skakon et al., 2010). It was hypothesized that the relationship would be indirect, in that the potential influence of leadership on subordinate distress would be mediated by the work environment, measured as job demands and control. The findings showed that all examined associations between leadership and distress were either partly or fully mediated by demands and control, which indicates that the subordinates' perceptions of the leadership–distress relationship were to a large extent explained by their perceptions of the work environment. This study used cross-sectional data, and thus it was not possible to draw any conclusions about direction of causality. Was it the manager's leadership that had an impact on the level of job demands and control, or was it the other way around? Was it the subordinates' perceptions of leadership and work environment that influenced the level of distress, or was it the reverse? In any case, assuming an asymmetric influential relationship between the manager and subordinate (i.e., stronger influence exerted by the manager), some suggestions about how leadership might impact the perceived level of job demands and control are presented below.

In Study II, change-oriented leadership was found to be negatively correlated with job demands and positively correlated with job control. Although there is a lack of empirical data from other sources concerning the relationship between change-oriented leadership and perceptions of job demands and control, in this evaluation, change orientation was the leadership dimension most consistently fully mediated by demands and control. This agrees well with an investigation that demonstrated that organizational changes (perceived as either positive or negative) were associated with perceptions of job demands and control in the expected directions (de Lange, Taris, Kompier, Houtman, & Bongers, 2002). For change orientation, the majority of the tested associations with distress were mediated by job demands and control. Thus in healthcare it is plausible that change-oriented leadership is influencing subordinates' level of distress primarily by reframing continually occurring organizational changes into something manageable and meaningful for the subordinates (i.e., by affecting the perceived level of job demands and control).

Production-oriented leadership was also negatively correlated with job demands and positively correlated with job control. Furthermore, production-oriented leadership was in most cases partly mediated, suggesting both an indirect and a direct effect on subordinates' distress. The role of production-oriented leadership in subordinate distress was addressed in a previous section and thus is not discussed in detail here. However, it can be mentioned that an induced structure provided by a production-oriented manager might include positive aspects that can increase subordinates' perception of control, and thereby mitigate the loss of control that subordinates have been reported to experience in organizations with ongoing changes (Fugate, Kinicki, & Scheck, 2002).

Employee-oriented leadership exhibited the strongest negative correlation with job demands and the strongest positive correlation with control. This is well in line with a meta-analysis demonstrating that supervisor support is negatively related to job demands but positively related to job control (Luchman & Gonzalez-Morales, 2013). The positive influence of managerial and/or colleague support has been widely studied in relation to the Job Demand–Control–Support model (Karasek & Theorell, 1990), and, in healthcare, managerial support has been related to lower levels of distress among nurses (Hall, 2007). Assuming that providing support and exhibiting employee-oriented leadership are strongly correlated in managers, it seems likely that managers with a high level of employee orientation are regarded by their subordinates as a resource for dealing with challenging demands (which might also have an impact on perception of control).

Thus the current findings show that subordinates' perception of their managers' leadership and its association with distress involve an appraisal of job demands and control. As mentioned above, a possible interpretation of the direction of causality in this triad is that managers indirectly have an impact on the level of distress by directly influencing the work environment. However, the reverse causality is also conceivable, in which the level of distress has an impact on how job demands and control are coped with, or objectively changed, or subjectively perceived, factors that in turn may affect how the subordinates are (or perceive that they are) treated by their managers. Yet another viable interpretation is a reciprocal (bi-directional) causality, which is supported by the results of a longitudinal study exploring how job demands, control, and support are related to mental health (de Lange, Taris, Kompier, Houtman, & Bongers, 2004). Moreover, a reciprocal association between leadership and employee distress has also been reported, e.g., in regard to work engagement and job exhaustion, suggesting that the quality of leadership is affected by the level of employee distress (Rigotti et al., 2014). Despite several potential interpretations of the mediating role of job demands and control, the data obtained in the present project provide a more specific understanding of the ways in which leadership might be related to subordinates' distress.

Considering the mediators, skill discretion is well worth highlighting, because for individuals it entails having the opportunity to use their skills and experience work as meaningful. In Study II, the B-coefficient was twice as high for skill discretion as for the relationships involving decision authority (the other sub-dimension of job control) or job demands, indicating a more prominent negative association between skill discretion and disengagement. Also, in Study I, skill discretion had a stronger group effect than job demands and decision authority, and post hoc-analysis demonstrated that this impact was related to a difference between the Vague Leader profile and the other profiles. Together, these findings agree with previous research showing that meaning of work is an important mediator between leadership and distress (Rigotti et al., 2014), and they also support research revealing an association between lack of skill discretion and burnout (Lee & Ashforth, 1996). The significance of the mentioned observations is potentially substantial in light of discoveries made in research on public service motivation. Only a limited number of studies have focused on public service motivation, but in general the results have supported the notion of “other-oriented” drivers of individual effort, rather than self-concerned drivers, in individuals seeking public service employment (Perry et al., 2010). Research in this area has also



emphasized the importance of meaning and purpose in energizing and sustaining behaviour. Against this background, the current results suggest that in a healthcare context employees' perception of high skill discretion is essential to promote the health and effectiveness of these individuals. To address this issue, it is probably vital to ensure that the core purpose of healthcare—to deliver high-quality care—is taken into account in aspect of everyday work. According to findings reported in this thesis, leadership has a role in the interplay between skill discretion and disengagement, which suggests that these aspects can be influenced. The daily contact with care recipients is usually described as involving a valuable sense of meaningfulness (Stranz, 2013), but it cannot replace the significance of the way that healthcare organizations internally draw attention to the purpose of their existence. The role of leadership has been described as being, among other things, a translator of the organizational purpose (Zaccaro & Klimoski, 2001). However, considering the concept of vertical alignment (von Thiele Schwarz & Hasson, 2013), which outlines the need for an alignment between vision, goals, and behaviours that extends from the top management level to subordinates, if the managers closest to the subordinates are to translate an organizational purpose of high-quality care, this purpose must likewise be translated to them.

#### **7.4 LESSONS FROM A LEADERSHIP DEVELOPMENT EVALUATION**

*One of the key results of Study IV* showed that there was no substantial difference in outcomes between the two interventions that were compared: backstage groups and theoretical seminars. The changes in ratings of leadership (both increases and decreases) between the different time points (Time1, Time2, and Time3) applied almost consistently to both intervention arms and all rater sources. There are several plausible explanations for this observation.

First, the interventions might have been too similar in content. Both the interventions included elements of self-reflection and discussion of leadership-associated themes with colleagues, but with the emphasis on different parts of Kolb's learning cycle (Kolb, 1984) (i.e., reflection on practical dilemmas in the backstage groups and conceptual abstraction in the theoretical seminars). The managerial role is associated with having a power of action (Thylefors, 2007), and as a manager it can be difficult to prioritize time to reflect on the role as leader. Kolb, as well as Lewin, Dewey, and Piaget have underlined that experience alone is not enough to drive change, and that such also requires reflection. Thus it is possible that the element of reflection in the theoretical seminars, albeit small compared to the corresponding element in the backstage groups, was sufficient to stimulate change.

A second interpretation is that in both interventions there were also other elements that stimulated development, such as meeting with colleagues and sharing and comparing leadership challenges, which might have nurtured feelings of support and of being normal ("I am not the only one who finds these issues difficult."), as indicated by previous investigations (Bergman, Fransson-Sellgren, et al., 2009). In further support to this explanation is the previous finding of perceived low supervisor support for a proportion of the healthcare managers (Arman et al., 2009; Johansson et al., 2013).

A third way of understanding the results is that development occurred only in certain subgroups. In this line of reasoning, individual differences between the managers might have

played a more powerful role in development compared to the differences in the contents of the interventions. For instance, strong leader identity has been reported to be associated with developmental trajectories in emerging leaders (Day & Sin, 2011). Accordingly, it could be of interest to consider the impact that different leadership profiles might have had on leadership development. Was it managers with the Vague Leader profile that benefitted most from the interventions, or was it instead the “Super” Leader, the Gardener, or the Middle-of-the-Road managers?

It has been argued that a way to advance knowledge concerning leadership development is to follow examples from psychotherapy research, which to a larger extent uses comparison of two different interventions rather than comparison of an intervention and a non-intervention, as is traditionally done in leadership development research (Barling, 2014). However, some researchers are of the opinion that the characteristics of individual participants can explain a substantial part of the variability in training outcomes (van der Klink, Gielen, & Nauta, 2001). Following this line of reasoning, in order for a certain intervention to explain variability in outcomes more effectively than that of another intervention, over and above individual characteristics, the interventions should not be too similar. A lesson from the present evaluation of a leadership intervention is that steps should be taken to ensure that the interventions are sufficiently asymmetrical when the aim is to compare two or more interventions. Moreover, generic leadership development programmes may have limited effects if they include all types of managers across all sorts of contexts (Zaccaro & Klimoski, 2001). Examples of characteristics associated with training outcomes are personality (Poropat, 2009) and differences in motivation or self-efficacy (Blume, Ford, Baldwin, & Huang, 2010). This leads to interesting questions about how a leadership development initiative such as backstage groups should be targeted to achieve the best effect on the managers that will benefit most extensively from the intervention and these issues should be further investigated in future research.

*Another important finding in study IV* concerns the mixed results of leadership ratings between Time1 (0 months) and Time2 (12 months) and Time3 (24 months), respectively. The participating managers themselves perceived improved leadership in all orientations (change, production, and employee) at both Time2 and Time3. The other rater sources did not perceive any improvement in change- or production-oriented leadership. Superiors and subordinates reported a decrease in employee-oriented leadership, and for the subordinates this applied to both Time2 and Time3.

These results can be interpreted in a number of ways. One possibility is that development in leadership behaviour did take place, but the criterion measured failed to capture this change in regard to the external raters. Another potential explanation is that no development in leadership behaviour actually occurred. The mentioned findings are discussed below in relation to these different interpretations.

The possibility that development in leadership behaviour did occur but was not captured by the measured criterion is supported by the results of previous evaluations of backstage groups (Bergman, Arnetz, Wahlstrom, & Sandahl, 2007; Bergman, Fransson-Sellgren, et al., 2009), and by another investigation that was performed within the project “Effects of Leadership Development in a Healthcare Organization” (Palm, Ullström, Sandahl, & Bergman, In Press)

but was not part of the present thesis project. In the cited study, some of the participating managers' subordinates were individually interviewed about perceptions of changes in their manager's leadership after completion of both interventions. This analysis showed that a majority of the subordinates reported that the leadership had improved, which supports the notion that the full programme did in fact contribute to development that was also noticed by the subordinates. This development was almost consistently described as the managers demonstrating improved self-confidence in the leadership role, exemplified by behavioural changes in decision making and handling of conflicts. These verbal reports indicating leadership development are in contrast with the non-occurrence of improved leadership rated by external sources, which raises questions about why changes in leadership were not captured by the 360-degree instrument in Study IV. One possible explanation is that the subordinates might not have had sufficient exposure to changes in leadership behaviour that are measured by the 360-degree instrument. For a higher rating to be made by external sources, the following chain of events should take place: during participation in an intervention, the manager alters some cognitive and/or emotional aspect about her/his leadership; this internal alteration manifests itself in overt behaviour in the presence of subordinates; subordinates (preferably several) succeed in discriminating between this behaviour and an array of other behaviours, and also perceive it as changed; the change is substantial enough for subordinates to succeed in rating the behaviour higher than before in a scale discriminating between the new and the old level of that particular behaviour (Figure 11).

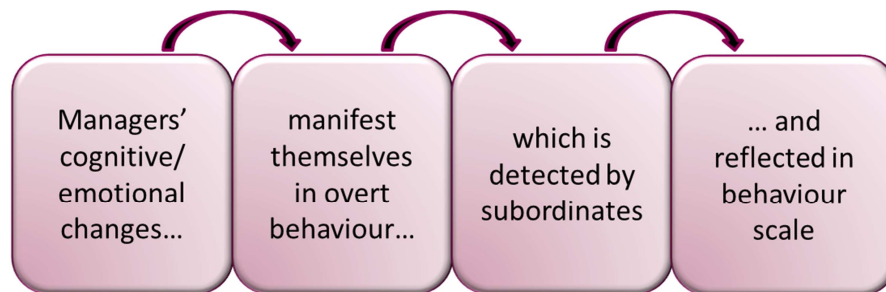


Figure 11. Chain of events from leadership development to subordinates' ratings.

Thus one of the differences between the ratings made by the participating managers and the external sources is related to the amount of information about changes in leadership behaviour that is available: it is possible for the managers to identify changes at an early stage (e.g., when experiencing new insights or feelings about how to deal with a particular situation), and hence they might rate *intention to behave* even before the situation has arisen. However, the external raters must have the opportunity to observe the behaviour, as underlined by a study showing that honest feedback ratings are predicted by this opportunity (Smith & Fortunato, 2008). Inasmuch as leadership involves interaction (Yukl, 2012), the presence of employee-oriented behaviour might have been easier to observe than production- and change-oriented behaviour, which would explain why superiors and subordinates reported changes in this behaviour orientation.

It is also possible that the criterion measured contained behaviour-related items that were not sufficiently specific (e.g., "My manager is considerate") for the external raters to be able to successfully discriminate between different leadership behaviours, whereas this did not affect

the managers. Similarly, one of the findings in Study III was that subordinates' and colleagues' ratings of leadership behaviour were better predicted by narrower personality variables, but this did not apply to the managers' self-ratings of leadership behaviour. This suggests that the managers can base their self-ratings on personal information that is not available to others. The results of the present leadership development evaluation agree with another assessment using a 360-degree instrument, in which a majority of the external raters did not perceive positive behavioural changes in managers after training (Jellema, Visscher, & Scheerens, 2006). The authors of that study questioned the use of a 360-degree instrument for evaluating an intervention. In support of that conclusion, a lesson learned from the present analysis is that the arguments for and against the use of a 360-degree instrument for assessment of an intervention should be scrutinized, and approaches to handle contradicting ratings should be considered.

*Returning to the question of how to interpret the mixed results*, a second alternative is that no changes in the measured leadership behaviour actually occurred, indicating that some factors other than the interventions generated the significant changes in managers', superiors', and subordinates' ratings. The managers' higher self-ratings might be explained based on the theory of cognitive dissonance (Festinger, 1957), according to which individuals have an inner drive to maintain attitudes, beliefs, and actions in harmony to avoid disharmony or dissonance. Thus individuals who have participated in a development intervention are likely to describe it as a valuable experience in order to justify the time spent on that endeavour. Another interpretation might be that the ratings actually represent either beta changes (subjective alterations of the measurement scale over time) or gamma changes (altered thoughts about a measured construct over time) (Golembiewski, Billingsley, & Yeager, 1976). The lower ratings made by superiors and subordinates are more difficult to understand. One possibility is that the external rater sources formally closest to the manager, the manager's immediate superior and the manager's subordinates, expected greater improvement in leadership. Therefore, lower ratings might reflect failure on the part of the managers to meet these expectations.

It should also be noted that, in general, the evaluation criterion should be aligned with the content of the intervention (Taylor, Russ-Eft, & Taylor, 2009). Thus, considering that in neither of the current interventions was the content focused on the CPE model of leadership behaviour, it is not very surprising that the participants did not develop in this respect. Instruments providing 360-degree feedback have become widely used as process tools for leadership development (Day et al., 2014), and this means that the respondents will normally take part of their results and have the opportunity to set goals based on those results. In our study, the 360-degree feedback instrument was used in evaluations performed at 0, 12 and 24 months, without the participants receiving feedback on how they had been rated. This was done to allow investigation of the effect of the interventions, which, particularly in the backstage groups, did not involve 360-degree feedback. However, this procedure may have contributed to the lack of ratings indicating improvements.

Day (2001), among others, has pointed out the difficulty in transferring learning to the workplace. Research in the field of transfer of training (i.e., the extent to which learning during training is later applied at work) has examined when and under what circumstances learning from training events is best transferred to job performance. A number of

characteristics before, during, and after training have been identified, e.g., training needs analysis, behaviour role modelling, and provision of reinforcement and support after training (Salas, Tannenbaum, Kraiger, & Smith-Jentsch, 2012). A meta-analysis addressing the transfer of managerial training included the effect sizes derived from different rater sources (Taylor et al., 2009), and the results showed that ratings of changed job behaviour were highest for studies in which the following applied: raters were aware that the manager had attended training; training content was based on an evaluation of skill requirements in the organization; criteria matched the training content; training included opportunities for practice. The present interventions did not include the majority of these characteristics associated with transfer of training, and thus this research field offers several probable explanations as to why behavioural change might not have occurred.

The transfer-promoting characteristics might have their most natural application in development interventions aimed at enhancing leadership knowledge or skills (i.e., the cognitive or behavioural understanding of leadership; called “knowing leadership” or “acting leadership” in the terminology of Jackson and Perry (2008)). However, according to this previously outlined distinction between methods of leadership development (see the introduction section), it could be argued that the backstage group method might be closest to the emotional understanding of leadership (“feeling leadership”) or to Aristotle’s term “Phronesis”, meaning wisdom of leadership. Grint (2007; referred to in Jackson & Perry, 2008) has contended that wisdom can be achieved solely by continually reflecting on one’s own experiences. Thus wisdom in leadership cannot be taught, it has to be subjectively collected through experiences of leading. The backstage group method can be viewed as a formalized way of achieving this wisdom. Inasmuch as backstage groups are based on a theoretical tradition in which learning is viewed as a continuous process between reflection and experience, and not as an “accumulated storehouse of facts or habits” (Kolb, 1984, p. 26), the goal of transfer of training might not be obviously applicable in this type of leadership development. This indicates that outcome criteria other than leadership behaviour are more suitable for evaluating the effectiveness of a backstage group intervention. Thus the present leadership development evaluation also emphasizes the need for an outcome criterion that is theoretically motivated on a more specific level and is based on a programme theory underlying the intervention (Pawson & Tilley, 2001), as well as a need for process evaluation (Nielsen & Randall, 2013).

## **7.5 LEADERSHIP: IN THE MIND OF THE BEHOLDER**

One of the aims of the present research was to investigate leadership from the perspectives of healthcare managers themselves and various other categories of employees. Patterns of both consistencies and inconsistencies between perceptions of leadership emerged and were seemingly not random. In Study III, personality variables differed between rater sources with respect to predicting ratings of leadership. Emotional intelligence predicted the ratings in all leadership orientations made by the superiors. The equivalent aspects from the subordinates’ perspective were the personality traits positive attitude and openness. For the self-ratings or the colleagues’ ratings there was no personality trait that was consistently related to all leadership orientations. This observation largely concurs with findings obtained by Oh and Berry (2009) in a study examining the predictive validity of the Big Five traits of two dimensions of managerial performance (task performance and contextual performance [e.g.,

paying attention to subordinates]). Those authors noted differences across rater sources (superiors, colleagues, and subordinates) with respect to how managers' personality was related to ratings of managerial performance. They also found that ratings made by multiple sources captured a larger proportion of the variance of managerial performance compared to ratings made solely by the superiors. In addition to implying that evaluating different perspectives together captures more variance in managerial performance, the results of Oh and Berry also indicate that employees with different organizational relationships with the manager pay attention to disparate aspects of the managers' personality in terms of leadership.

Managerial positions, as well as other professional positions, come with expectancies on a set of role behaviours (Biddle, 1979), and the results of Study III suggest that these expectations can differ in relation to type of employee category and personality trait. This implies that subordinates expect their managers to have a positive attitude and show openness, irrespective of the leadership behaviours that are displayed, whereas supervisors expect a healthcare manager to show emotional intelligence, also regardless of the leadership behaviours that are exhibited. Thus these personality traits can be comprehended as the coherent and consistent pattern in which leadership is expected to be performed. Notably, the managers in the present research gave higher self-ratings of their emotional intelligence in the personality test, and they scored higher on the emotional intelligence performance test (interpreting facial expressions of emotions) compared to the norm group (Figure 5 in method section). These observations support the results and seem logical, considering that the participating superiors were probably involved in recruitment of the managers.

The leadership development evaluation (Study IV) also demonstrated that patterns differed between rater sources. First, the managers' colleagues did not note any change after the interventions, and this agrees with the pattern noted in Study III, in which the colleagues' perceptions of the managers' leadership did not show the same consistency within the group as found for both the subordinates and superiors. One explanation for this is that healthcare managers are not in a very suitable position to observe the leadership of their colleague counterparts. Second, there was agreement between the other two external rater sources indicating that the managers' employee-oriented behaviour had decreased. Third, the participating managers experienced improvements in all leadership orientations. Thus it appears that the influence of an intervention is perceived differently from different perspectives, and therefore it might be appropriate to rephrase the general question of whether an intervention has any effect to the following: From whose perspective is this intervention effective?

In Study III, all of the external sources' ratings of employee orientation were predicted by the managers' self-rated agreeableness, and hence in this respect they were in agreement. This contradicts the results of Oh and Berry (2009) showing that agreeableness was not related to contextual performance and was negatively related to task performance. Thus one of these two studies found a relationship between agreeableness and leadership, whereas the other did not. What is the reason for this discrepancy? To further complicate the picture, the leadership development evaluation in the present research revealed a decrease in the rating of employee-oriented leadership for two of the external sources, which also implies a lower level of

agreeableness. Should this result be interpreted as showing that the intervention actually did more harm than good for these external rater sources?

One way to answer these questions might be found in research concerning expectations on social behaviour. The social context, in which we interact with each other, may influence what we expect from others. In highly ritualized situations, the characteristics (e.g., gender and age) of those with whom we interact are less influential than they are in more informal situations in which they may determine our behaviour (Snyder & Stukas, 1999). Hence, in normal, non-ritualized, everyday interactions in the workplace, expectations related to specific individuals are often based on general stereotypes of membership in certain categories, such as gender (Snyder & Stukas, 1999). Interestingly, the sample of managers in the present research comprised a majority of (> 80%) women in a female-dominated organization and in that respect differed from the sample evaluated by Oh and Berry (2009), which consisted of > 70% male employees at a power company. An investigation examining stereotypical beliefs about leadership styles revealed differences in beliefs regarding how women and men *behave* and *should behave* as leaders (Vinkenburger, van Engen, Eagly, & Johannesen-Schmidt, 2011). In that study, Vinkenburger et al. found that, compared to men, women are assumed to display more transformational and contingent reward behaviours, and fewer management-by-exception and laissez-faire behaviours. Moreover, concerning beliefs about how leaders should behave, the results showed that individualized consideration (one of the behaviours in transformational leadership) was regarded as more important for women than for men. Individualized consideration and employee orientation are partly overlapping constructs, both of which cover aspects of showing concern for employees. The observations made by Vinkenburger et al. (2011) suggest that the expectations on the female-dominated sample of managers in the present research might have differed from the expectations on the predominantly male sample evaluated by Oh and Berry (2009). Since leader traits have been shown to be associated with leadership behaviours (DeRue et al., 2011), it is possible that the stereotyped beliefs about gender may also include perceptions of personality. Consequently, the inconsistency between the two studies regarding whether agreeableness was or was not related to leadership might be the result of an effect of differences in stereotyped beliefs.

Considering the finding of a relationship between agreeableness and employee-oriented leadership in Study III, paradoxically, a decrease in employee-oriented leadership in Study IV might have made the managers more effective, as indicated by a meta-analysis showing a weak association between agreeableness and leadership criteria (albeit without separate analysis of women and men) (Judge et al., 2002). In light of the findings published by Vinkenburger and colleagues (2011), the decreased ratings of employee-oriented leadership noted in Study IV are intriguing, and they might have arisen because during the interventions the healthcare managers grew in their leader role, felt more self-confident, and therefore showed less pronounced employee-oriented behaviour. Notwithstanding, the subordinates and superiors expected this kind of leadership behaviour, and so they easily reacted to changes in levels of this behaviour. The positive relationship between employee-oriented leadership and health workers' well-being is well validated in the literature (Cummings et al., 2010), and thus a decrease in this particular leadership orientation would be alarming. However, assuming a curvilinear relationship (leadership might be associated with moderate

levels of agreeableness, but not with low or high levels) rather than linear (Fleishman, 1998), would make sense of the present findings in relation to previous research.

Still, if leadership is in the mind of the beholder, is not then leadership best defined by this particular beholder? Perhaps not. We do not always know what is best for us, and stereotypic expectancies might lead us wrong, both in terms of what we want from others and what we expect from ourselves. Moreover, it is up to the individual to meet, or not to meet, the expectancies of others. In this sense, the leadership development interventions in this thesis might have contributed to a higher self-awareness of one's leadership, which in turn may have stimulated the participating managers to take on the leadership role in a slightly different way.

In summary, perceptions of leadership in the present research comprised both agreement and disagreement between the various employee perspectives. This underlines the relative quality of what constitutes leadership based on an organizational position related to the target manager, which suggests that each perspective has its own social construction of leadership.

## **7.6 METHODOLOGICAL CONSIDERATIONS**

Every piece of research is based on choices and basic assumptions, and ultimately this has an impact on the possibility to draw valid conclusions from the findings. Judging the validity of a research study involves asking a number of questions, and the following guide the methodological discussion below:

- What was the research question?
- Did the research design match the research question?
- How was the research conducted?

*What was the research question?* Here, the research question that was initially formulated, and that influenced the choice of study design, considered whether a backstage group intervention would have an impact on the leadership behaviour of the participating managers. Embedded in this question was a focus on the individual leader, assuming a leader-centred perspective. It seems that in the field of leadership studies there is a growing consensus that leadership should be regarded as a relational and interactional process, but this ontological premise is not always reflected in the analytical unit. One of the limitations of the leader-centred perspective is the emphasis on the individual managers' significance for organizational outcomes (Sveningsson & Alvesson, 2010), which might obstruct a more complete understanding of a phenomenon. However, it has also been argued that, in order to capture a complex phenomenon like leadership, it needs to be elucidated from a multitude of perspectives, which support a continuous approach of "both and" rather than "either or" in studies of leadership.

*Did the research design match the research question?* Two challenges facing evaluators of leadership development are (i) how to measure leadership outcomes, and (ii) how to determine the relationship between the intervention and changes in the leadership outcomes (Hannum, Martineau & Reinelt, 2006). The RCT design is considered to be most appropriate for drawing such causal conclusions in evaluations of leadership development (Barling, 2014; Hannum, Martineau & Reinelt, 2006), that is, for determining a relationship between



the intervention and changes in the outcome measure. The major tool for accomplishing this task is the randomization process, which entails the underlying assumption that any systematic differences between subjects will be evenly allocated between the intervention arms. In short, this means that a potential change detected between the interventions at posttest should be attributable to the intervention, and thus such a design attempts to keep confounding variables under control. Inasmuch as the research question on which the present project was based considered whether a backstage group intervention would have an impact on the leadership behaviour of healthcare managers, the RCT design was considered to be the best option to address that issue. The rigour of this type of research design was underlined in a review published by Heaney and Goetzel (1997), which concerned the quality of work health promotion programmes and showed clear differences in the percentage of “encouraging” investigations depending on the study design: RCT 22%, quasi-experimental 56%, and single group pretest–posttest 100%. This observation agrees with the findings of Collins and Holton (2004), hence indicating that less rigorous investigations might report results inflated by some variable other than the intervention performed.

Use of the RCT design in social complex interventions (e.g., a leadership development programme) has been questioned (Schelvis et al., In press; Walshe, 2007). Leadership development, even within the same intervention, involves variability in context, content, application, and outcomes, and it has been argued that the confounding factors that are meant to be held constant are actually not under control (Walshe, 2007). One of the challenges of using the RCT design in natural experiments is that it is not always possible to achieve the randomization on an individual level (Schelvis et al., In press), and in such cases that process has to be performed on a group level (cluster randomization), which limits the positive effect of a randomization. However, in the development programme assessed in the present research, the randomization was conducted on an individual level, and thus internal organizational changes, even at the unit level, should have been evenly distributed across both intervention arms. Moreover, the group leaders received the same training in leading according to a manual, which to some extent should have reduced the variability in the application of the intervention. Nevertheless, the causal inferences in the present evaluation are limited, because no difference was detected between the two interventions, and thus the observed increases and decreases in leadership behaviours might have been caused by some variable other than the interventions.

*How was the research conducted?* This question spans several aspects: participants, interventions, data collection, and statistical analysis. The investigated managers constituted a convenience sample, and thus the self-selection of individuals willing to participate in development programme might have led to sampling bias. The group of healthcare managers that declined to participate had a higher mean age and a smaller percentage of women, thus it cannot be excluded that the managers who chose to take part in the programme differed from the participating group of managers, e.g., with regard to either leadership or personality. It could be argued that the purpose of an evaluation of leadership development is not to draw inferences about a population of managers who are not interested in development programmes, but in the present research this would apply only to Study IV. By comparison, the conclusions drawn in Studies I–III are preferably generalizable to a more heterogeneous population of managers. Accordingly, the current findings should be interpreted in light of

this limitation. It should also be noted that the sample of managers assessed in this thesis project was derived from SLSO, a division of the Stockholm County Council that provides health and medical care outside the hospitals, which may limit the generalizability of the conclusions to other types of healthcare settings. A strength of the present research is the large sample of randomly selected raters, considering that it has been demonstrated that the number of raters in a 360-degree instrument is related to the reliability of the results (Hensel et al., 2010).

The potential limitation of comparing the effects of the two interventions was discussed in depth in a previous section (see section “Lessons from a leadership development evaluation”). Briefly, it is plausible that the interventions were too symmetrical to allow any difference between them to emerge. Initially, the objective was to compare the backstage group intervention with a waiting-list control group, but that was not practically feasible, as previously described. Yet, if both interventions did generate an absolute positive change in the view of the participants, comparing backstage groups with a waiting-list control group would have enhanced the possibility to discern changes related solely to the backstage group intervention, which would have enabled causal inferences. Examples of the strengths of the interventions are the above-mentioned actions that were taken to reduce the variability in administration of the backstage groups, that is, the use of a manual and the same training of the group leaders in how to lead backstage groups. However, due to the open agenda, the content of that intervention could not be standardized to the same extent as was done in the theoretical seminars (the initial lecture).

How to collect data included several choices. One of the choices made was to define leadership as ratings made along the orientations of the CPE leadership model in a 360-degree instrument. The choice of the CPE model was based upon its well validated qualities in Scandinavian samples, and upon other researchers’ meaningful findings in a healthcare setting using the same model (Fransson Sellgren, 2007). The difficulties of interpreting contrasting findings in a leadership development evaluation would suggest that another kind of outcome criteria should have been elected. However, one of the main observations in the present research is represented by the contrasting perspectives that would have remained undetected if various rater sources had not been included, which nonetheless make interpretation of the evaluation of the effects a complex task. Moreover, a meta-analysis has demonstrated that, compared to learning outcomes, behavioural outcomes produce smaller effect sizes (Collins & Holton, 2004), and Day et al. (2014) have pointed out that measuring performance over time is less suitable for evaluating development, because that approach is affected by multiple factors. Ratings of leadership behaviour in the orientations change, production, and employee are multifactorial and thus possibly less appropriate for elucidating the impact of a leadership development intervention.

Another choice was to limit the data collection to questionnaire data in pre- and posttests, and thereby exclude information about the context or the process. Leadership research has a long tradition of relying on quantitative research, and the proportion of empirical studies using mixed methods is small, around 13% according to a review of articles in the *Leadership Quarterly* 1995-2012 (Stentz, Clark, & Matkin, 2012). However, collecting data from multiple sources about the process of the interventions and the context in which the interventions took place would have aided understanding of the current results. The research

design employed in the present evaluation did not provide sufficient information to draw meaningful conclusions for empirical or practical applications, as is sometimes noted for use of the RCT design in complex interventions (Schelvis et al., In Press). Based on the existing data it is difficult to determine whether the observed lack of improvements depended on programme failure (was the interventions implemented as intended?) or theory failure (was the link between the intervention and the outcome weak?) (Kristensen, 2005). The inconsistency of effect evaluations across settings of organization-level occupational health interventions has prompted researchers in that field to recommend the use of process evaluations to examine how and why change is or is not achieved (Nielsen & Randall, 2013). The need for a similar approach has been pinpointed by leadership development scholars (Barling, 2014) and researchers advocating the view that evaluation is the task of testing out the underlying programme theories (Pawson & Tilley, 2004). It has been suggested that the question “Does it work?” should be exchanged for “What works for whom, when, in what respect and why?” (Nielsen & Randall, 2013; Pawson & Tilley, 2004; Walshe, 2007). Some argue that such an approach involves the possibility to learn even more from an evaluation, as the operating mechanisms (rather than just the whole intervention in itself) are identified (Holmberg, Larsson, & Bäckström, 2009). Inspired by these approaches, the addition of process data and interview data about how participants, and non-participants, perceived the context during the intervention period would have been valuable in order to understand the results.

Finally, the procedures applied in statistical analyses contribute to the validity of the results of a research project. Studies I-III were based on cross-sectional data, i.e., data from one time-point, a strategy that impedes drawing conclusions about the direction of causality, and thus the relationships discerned in those investigations might have had normal, reverse, or bi-directional causality. The theoretical contributions of Studies I-III are restricted to disclosure of important relationships, however for non-established associations cross-sectional studies can be particularly useful in order to identify a relationship before undertaking longitudinal studies (Spector, 2006). For some of the findings the practical implications are less affected by this restriction. For example, the relationship between the Vague Leader profile and several distress outcomes may be useful information irrespective of causal direction.

Also, considering that all four studies included in this thesis were based on questionnaire data, there is a risk of common method variance (i.e., variance that can be attributed to the measurement method rather than to the assessed construct) (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). A potential source of such measurement error is the use of a common rater: when the same individuals rate both the predictor and the criterion variable, there is a risk of distorted relationships, especially in attitude measures (Cote & Buckley, 1988). One way to reduce common method variance is to ensure a time lag between different measurements (i.e., temporal separation): this applies to study IV, in which there was a year between data collection occasions. However, recent research on the topic suggests that common method variance does not influence the correlations as much as previously thought, and ratings based on the same method produce fairly accurate estimations of the true-score correlations (Conway & Lance, 2010; Lance, Dawson, Birkelbach, & Hoffman, 2010). Thus it appears that even the relationships found in the present cross-sectional studies (with no temporal separation between measurements) can be considered valid.



## 8 CONCLUSIONS AND FUTURE RESEARCH

Four distinct leadership profiles could be identified among healthcare managers: the Gardener, the Middle-of-the-Roader, the “Super” Leader and the Vague Leader profile. The Vague Leader profile was characterized by low values in all leadership orientations measured, and seemed to be at higher risk for stress compared to the other profiles. This observation suggests that leadership profile is one of the individual factors that can explain variations in perceptions of work environment and stress within a healthcare organization.

Production-oriented leadership includes behaviours such as following and monitoring work closely, planning carefully, and giving clear instructions. One finding was that production-oriented leadership had a negative relationship with distress, implying that the impact of some of these behaviours on the well-being of subordinates in a healthcare organization is greater than previously assumed. Perhaps a manager providing substantial production-oriented leadership can offer a beneficial level of predictability in an ever-changing setting. Based on the present findings it can be recommended that the significance of production-oriented leadership in relation to subordinates’ distress in healthcare services be further investigated, and in that context it would also be interesting to explore a potential association between leadership profiles and subordinate distress outcomes.

The relationship between leadership and subordinates’ distress was mediated by job demands and control. This is an indication that to a substantial part, impact of leadership on distress was exerted indirectly through influence on the work environment, not least the perception of meaningfulness and how employees can make use of their competence at work.

In the evaluation of two leadership development interventions, few differences were discerned. Individual differences between the healthcare managers might play a more powerful role for development than dissimilarities in the intervention content. Future research should further investigate how leadership development should be targeted to achieve the best effect on the managers who are most likely to benefit from such interventions (e.g., identified based on leadership profile). The present evaluation also highlights the need for an outcome criterion that is theoretically motivated on a specific level, i.e., is clearly aligned with the content of an intervention.

A main conclusion of this thesis is that leadership appears to be in the mind of the beholder. The participating managers and their supervisors, colleagues, and subordinates differed in their perceptions of the impact that the interventions had on leadership, and in their perceptions of which personality traits they valued in the managers. Together these results underline the relative quality of what constitutes leadership based on an organizational position related to the target manager, suggesting that each perspective has its own social construction of leadership.

## 8.1 PRACTICAL IMPLICATIONS

The findings reported in this thesis have the following practical implications:

- Healthcare managers in the Vague Leader profile appear to be at risk of higher levels of stress compared to other healthcare managers, indicating that managers with this profile would benefit from more managerial attention and perhaps also from targeted interventions to sustain their health.
- From the subordinates' perspective, leadership is involved in perceptions of job demands, control and distress, especially in perceptions of meaningfulness of work and how employees can make use of their competence. Therefore, a continuous emphasis on these aspects of the work environment should be included in both workplace meetings, and one-to-one meetings between healthcare managers and subordinates.
- From the subordinates' perspective, leadership behaviours such as following and monitoring work closely, planning carefully, and giving clear instructions, are related to lower levels of distress. Thus, healthcare managers may want to upgrade the subjective significance of these aspects of their leadership, traditionally termed "management".
- Using a 360-degree instrument to evaluate a leadership development intervention involves challenges related to interpreting the perceptions of the various rating sources. Also, the alignment between the content of the intervention and the outcome criteria has an impact on how well the effects of the intervention can be detected. Considering the results of the present research, it can be recommended that before a leadership development intervention is to be implemented, it is important to take into account not only the leadership aspect that is expected to be affected, but also from whose perspective it should have an impact, when choosing type of intervention and outcome criteria.

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